

AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, Editor.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. VII, No 47! SATURDAY, NOVEMBER 22 1851 [WHOLE No. 814 VOL. XXIV.]

PUBLISHED BY J. H. SCHULTZ & CO., 136 NASSAU ST.

PRINCIPAL CONTENTS.

Air Line Railroad.....	737
Railroads of the World.....	738
Relation of Railroads to the Great Exhibition.....	740
Northwestern Railroad.....	749
Railroad Routes through Northern Ohio.....	741
Finances of Kentucky.....	742
Reading Railroad.....	742
Hempfield Railroad.....	742
Virginia Central Railroad.....	742
Terre Haute and Richmond Railroad.....	742
Ohio and Indiana Railroad.....	742
Steubenville and Indiana Railroad.....	743
New London, Willimantic and Palmer Road.....	743
State Debt of Georgia.....	743
Atlantic and St. Lawrence Railroad.....	744
Peru and Indianapolis Railroad.....	744
Stock and Money Market.....	744
Erie Railroad.....	744
Railroads in the British Provinces.....	747
Sunbury and Erie Railroad.....	748
Railroad from Chicago to Lake Superior.....	748
Finances of Tennessee.....	748
Railroad Convention in Iowa.....	748

American Railroad Journal.

Saturday, November 22, 1851.

Railroad Convention at New Haven.

On Wednesday, the 12th instant, a convention of the friends of the air line railroad, between New York and Boston, was held at New Haven. The meeting was called by the Mayors of the cities of New Haven and Middletown, and Hon. C. R. Alsop, President of the proposed road, in pursuance of votes of the Common Councils of the cities of New Haven and Middletown, and of the directors of the New York and Boston railroad company.

The object of the convention was to call public attention to the importance of the proposed work, and to secure additional subscriptions to the capital stock. The sum of \$800,000 has already been subscribed. It will require about \$3,00,000 to complete the road. There was a very large number of persons in attendance from New York, Boston and the towns along the line of the proposed road.—The convention was organized by the choice of the following officers:—President, Hon. A. N. Skinner, Mayor of New Haven; Vice Presidents, Hon. Benj. Douglass, Mayor of Middletown; Hon. N. P. Wilder, of Boston; Professor W. C. Fowler, of Amherst, Massachusetts; Wedworth Wads-

worth, of Dunham; Secretaries, Alfred H. Terry, Esq., of New Haven; Dennis Sage, of Middletown.

After the organization was completed, the convention was first addressed by the Mayor of New Haven, who congratulated them upon the large audience that had assembled, and the deep interest taken in this great work, the New York and Boston railroad, commonly called the air line. He said that the people of New Haven were not so excited upon the subject as its friends from other towns. This was not owing to their want of interest in the undertaking, but to the variety of other projects they had been called upon to carry into effect. He hoped they would now offer the enterprise their warmest support and encouragement.—He said that New Haven had been hitherto cut off from the eastern part of the State, but this would no longer be the case. The road which was now in contemplation would pass directly through that portion of the State, which would be a great thing for Middletown and other towns, in a business point of view; but it would be still greater as regards the interests of literature, morality, and religion. The travel between New York and Boston would pass over this route, because it was the shortest and most direct. There was no doubt, then, that the line would command a large amount of business, just in proportion as it would contribute to the advancement of human happiness.

Hon. C. R. Alsop, President of the road, was then called upon. He said that it had been proposed to establish a direct line of railroad between the great cities of Boston and New York. Every improvement in steamboats and railroads, by which distance can be shortened, is regarded as of great advantage to the whole public. This road when completed would be the great highway of the east and south, and also of the west, when its connection with the Erie road should be established.—This being the most direct route, it would change the direction of travel, through the State of Rhode Island. Various other lines that were projected and were supposed to be antagonistic to the line would prove to be only feeders, and their construction should be hailed as the greatest advantage.

Mr. Amidon, who next addressed the convention, thought the new line would prove a good business road; for he had examined the country through which it was to run, and found it to be as rich and

productive in local business as any in New England. The various miscellaneous productions—the handicraft, the agricultural, and the mechanical of every kind—were as fully developed as in the vicinity of any line in Massachusetts. There was a larger amount of cotton, wool, boots and shoes manufactured on the first 30 miles of line than in any 30 miles of line in New England, excepting the line embracing Boston and Lowell, there being but 26 miles between those cities.—The local business of the road, he thought, would afford it ample support, but the lateral business would afford it still greater support, and the thro' business which would pass over it, in consideration of its being at least 28 or 30 miles shorter than any other route between Boston and New York, would crown all, while the saving of expense in the building of that 30 miles of railroad would be equal to the interest of the entire one-third of the capital.

Hon. Albert Smith, from Maine, next addressed the convention. He said that the State of Maine was among the three first in the Union for commercial importance, and built more steamships and merchant vessels than any three States.—Three-quarters, if not seven-eighths, of these merchant vessels were for merchants of New York and Philadelphia. There was a constant travel, therefore between those States and Boston. He said that nearly all the ships built in Maine were built from the timber of other States, such as Maryland and Virginia. The travel, therefore, to the State of Maine alone would pay the expenses of this railroad, and a handsome profit besides.

Hon. Mr. Russell, of Boston, Professor Silliman, of Yale, and Professor Fowler, of Amherst College, followed in order. Mr. Russell alluded to the cheapness of the road, the whole expense of which would not be equal to that of tunnelling 4 miles of the Hoosic railroad. He thought it would be profitable, because cheap. The saving of time was also a great consideration. Many of the routes that are at present constructed, are built with reference to this; as, for instance, the European and North American railroad, to save the time now occupied in the passage of the steamships, and the Hudson River Railroad, constructed along one of the most beautiful and navigable rivers in the world, in order to shorten the time between New York and Albany. Professor Silliman spoke of

the greater prosperity, and the superior intelligence which prevailed in those countries where railroads were numerous. He contrasted the miserable condition of the people in those parts of Italy, particularly the Pope's dominions, where railroads did not exist, with that of the inhabitants of Tuscany and Lombardy, where railroads prevailed.

After the addresses were concluded, the following resolutions were unanimously adopted:

Resolved, That in the opinion of this convention the public interest imperatively demands the construction of the shortest possible railroad route between New York and Boston, whose lines of steamers form the regular communication of this continent with Europe.

Resolved, That the local business on the line of this road would alone justify its construction.

Resolved, That the following reasons, in the opinion of this convention, fully warrant the belief, that the stock of this road must necessarily prove one of the most productive of any in this section of our country:

1st. It is the shortest possible route between the two great commercial emporiums of the north.

2d. Its unity under one board of directors.

3d. Its numerous tributaries, bringing Worcester, the great railroad centre of Massachusetts, some 20 miles nearer to New York than by any other existing roads; the Hartford and Providence road, affording to the inhabitants west of Willimantic along its line from Hartford, the shortest road, by about 14 miles, to Boston, and to the country east of Willimantic from Providence, a route to New York, some 12 miles less than by any other road; the New London and Palmer road, with its business, to New Haven and New York.

4th. Its cost of construction being estimated at \$3,000,000, only one-third of the cost of the present land route from New Haven to Boston.

After these resolutions were taken, the meeting adjourned.

From the Journal of the Franklin Institute.

RULE FOR CALCULATING THE WEIGHT THAT CAN BE SAFELY TRUSTED UPON A PILE WHICH IS DRIVEN FOR THE FOUNDATION OF A HEAVY STRUCTURE. BY JOHN SANDERS, BRET. MAJO U. S. ENG.

A simple empirical rule, derived from an extensive series of experiments in pile driving, made in establishing the foundation for Fort Delaware, will doubtless prove acceptable to such constructors and builders as may have to resort to the use of piles, without having an opportunity of making similar researches. I believe that full confidence may be placed in the correctness of this rule, but I am not at present prepared to offer a statement of the facts and theory upon which it is founded.

Suppose a pile to be driven, until it meets such an uniform resistance as is indicated by slight and nearly equal penetrations, for several successive blows of the ram; and that this is done with a heavy ram, (its weight at least exceeding that of the pile,) made to fall from such a height that the force of its blow will not be spent in merely overcoming the inertia of the pile, but at the same time not from so great a height as to generate a force which would expend itself in crushing the fibres of the head of the pile. In such a case it will be found that the pile will safely bear, without danger of further subsidence, "as many times the weight of the ram, as the distance which the pile is sunk the last blow, is contained in the distance which the ram falls in making that blow, divided by eight." For example, let us take a practical case in which the ram weighs one ton and falls six feet, and in which the pile is sunk half an inch by the last blow; then as half an inch is contained 144 times in 72 inches, the height the ram falls, if we divide 144 by 8, the quotient obtained, 18, gives the number of tons which may be built with perfect safety, in the form of wall, upon such a pile.

From the London Times, September 27th.

Railroads in the World.

COMPARATIVE SYNOPSIS OF RAILWAY TRANSPORT.

Having briefly sketched the railway communications executed and in progress in different countries where that species of locomotion has been adopted, we shall now bring into juxtaposition the principal results of our calculations, and show the comparative progress which different nations have made in this important art. In making such a comparison, it is especially necessary to consider, not merely the length of railway, but the capital which has been invested in its construction—for two lines of communication receiving the common denomination of "railway," may differ from each other extremely in their utility and value. Such a line of communication, for example, as that which connects, or lately connected Portsmouth, in the State of Virginia, with Weldon, in the State of North Carolina, and that which connects London and Birmingham, both receive the common name of railway, nearly in the same manner as the log cabin of a Missouri settler and Blenheim palace receive the common designation of dwelling house. The most exact measure of the relative utility or efficiency of two lines of railway is, therefore, cost. It is not, however, to be forgotten, that even in adopting this test, regard must be had to the relative cost of land, material, and labor, in different localities.

The extent of railway communication, and the expense of its construction, may be compared with reference to the population whose commerce it subserves, or to the territorial extent of the country through which it is carried.

In the following table, taken with some modifications, from the work already noticed, are given, according to the most recently published returns, the population and territory, and ratio, between them, for the several States in which railways have been constructed.

Table showing the population and territory, and their relation, in the several Countries where railways have been constructed.

	population.	Extent of Territory. Square mile.	pop. per. Square mile.
United Kingdom, including Denmark and Holland.....	28,000,000	121,050	231.40
Germanic States.....	45,753,000	268,548	170.00
United States.....	25,000,000	3,314,365	7.20
France.....	35,400,000	204,708	173.00
Belgium.....	4,335,000	11,256	382.00
Russia.....	54,000,000	1,692,478	28.60
Italy.....	47,600,000	312,774	152.00
Totals & average.....	239,088,000	6,125,179	39.03

It appears from the official returns that the total length of railway under traffic in the United Kingdom on the last day of 1850 was 6,621 miles, which were distributed as follows:—

	Miles.
England and Wales.....	5,132
Scotland.....	951
Ireland.....	538

Total length..... 6,621

The length of railway at that date in progress of construction, consisting of extensions of existing lines, branches or new lines, is not ascertained with precision, but was certainly under 1,000 miles. Of this a part has, of course, been completed and brought under traffic since the commencement of the present year. Now, as 625 miles of new line were brought under traffic in 1850, we shall not be far from the truth if we assume that since the commencement of the present year, between 300 and 400 miles more have been completed. This would give a total length of railway of 7,000 miles now complete and in operation.

By the returns of the Railway Commissioners it appears that on the 1st day of 1850 the total amount of capital which had been expended on the railways was £220,000,000 sterling. But this sum included a certain unascertained amount absorbed by the railways then in progress, which the commissioners roughly estimated at £20,000,000. This, with

another small deduction, £197,500,000 chargeable to the railways at that date in operation. But, on the other hand, it is considered that railways after they are opened continue for a considerable time to absorb capital before they attain the entire completion. When first opened, stations are imperfectly furnished, some not yet erected, rolling stock is complete, depots for engines and carriages, still in progress, and some not yet commenced, turnplates, sidings, water tanks, coke ovens, and a thousand other accessories require the lapse of some years to be fully completed and supplied. We shall not, therefore, over-estimate the capital absorbed by the railways open on the 1st January, 1850, if we leave to its account the amount which the commissioners deducted as representing the capital which had been expended on the railways in progress but not then opened. Thus we shall assume that the railways open on the 1st of January, 1850, whose total length amount to 5,996, represent a total capital of £220,000,000.

Allowing a proportional amount of capital for the 1,000 miles opened since that date, we shall find that the 7,000 miles of railway now open will represent a total capital of £250,000,000.

This result, combined with the calculations and returns given in Dr. Lardner's work, (Railway Economy, p. 496,) supplies data from which the following table has been computed:—

Table showing the extent of Railways under Traffic, and the extent of capital invested in them, in the several Countries in which railways have been constructed:

	Railways completed. miles.	Cost of construction and equipment.
United Kingdom.....	7,000	£250,000,000
Germanic States.....	5,342	66,775,000
United States.....	10,289	66,654,000
France.....	1,018	48,781,000
Belgium.....	532	9,576,000
Russia.....	200	3,000,000
Italy.....	170	3,000,000
Totals.....	24,551	447,786,000

It must be admitted that we have here sublime results of human industry and enterprise. If sublimity can be applied with propriety to such a class of phenomena.

Within the brief period of twenty years the population of the above named parts of the world, amounting, in aggregate numbers, to about 240,000,000 of souls, have constructed and brought into operation a length of railway which, if continuously laid, would exactly surround this planet, and have expended in the accomplishment of this work, an amount of capital of nearly £448,000,000 sterling.

It appears, also, that there is still in progress a length amounting to about sixty per cent of that which has actually been executed; so that, when the whole shall have been completed, we shall have an entire extent of about 40,000 miles of railway, upon which a capital of £700,000,000 sterling will have been expended.

The gross expenditure made within twenty years being £448,000,000, is at the average annual rate of £22,400,000; but as the chief part of this has been expended within the last thirteen or fourteen years, the actual annual expenditure in this period could not have been short of from £27,000,000 to £28,000,000.

The most remarkable feature about this astounding phenomenon, is the proportion in which the expenditure of this enormous capital is distributed among the different countries above named—It appears from the above results that 57 per cent. of the whole amount is expended in the United Kingdom, while only 15 per cent of it has been expended in the Germanic States, an equal amount in the United States, and 10 per cent in France, insignificant fractions being appropriated to the other States.

But it must be remembered that the expenditure of British capital in these enterprises has not been confined to the United Kingdom. No inconsiderable share of the capital absorbed in foreign railways, not excepting those of the United States, has been derived from this country, and we shall certainly not exaggerate its amount if we assume that 70 per cent of the total capital expended upon the railways of the world has been supplied from the

Wilmington and Zanesville Railroad.—The Wilmington Republican speaks of the advertised letting on this road on the 17th as a *probability*—we had supposed it a certainty—and adds, if let, there will, before winter sets in, be one thousand hands at work on the line. The contingencies on which the letting is set down as only probable are, first, that they obtain the right of way, some of which has not been obtained; and second, an increased subscription to the stock required to make the Fairfield county subscription available. This the counties along the line should fill up at once. The officers appeal to the people for this aid, and they ought to receive it and be cheered onward in this great work.

From the London Times, October 20.
Relation of Railroads to the Great Exhibition.

One of the most wonderful facts of the great London Exhibition is the mode in which its visitors came to it. How did they all get there? The total number of visits was 6,201,856, and supposing that on the average each person went twice, there were more than three million visitors. The arrivals from the continent during the whole period of the Exhibition did not exceed, it is said, 70,000; and it is also said there were not more than 4,000 names entered on the American visitors book; but of our own people a very fair proportion came from the manufacturing districts in the midland and northern counties, and other still more distant parts of the empire. Now, how did they come? Had it been proposed thirty years ago, or even twenty-five years ago, to get up an Exhibition in London, on the speculation that three million persons would come up to it, and a half a million of money would be taken at the doors, the most practical men of the day would have laughed the proposition to scorn. When it was rumored during the struggle on the Reform bill that fifty thousand men from Birmingham were about to present a petition in person, a great authority asked, "Where will they find shoes?" Everybody must remember what a difficulty it was to move a few score persons a few score miles in that age of stage-coaches, wagons and canal-boats. When a manufacturer brought a hundred men as many miles across a country it was a thing to be remembered, a sort of *Ællic* migration; and the annual concourse of strangers described by our school-books at the great fair at Leipzig almost exceeded belief, though hardly amounting to one dull day at the Exhibition. Thirty years ago we doubt if there were ten coaches a day from Manchester to London, even including three routes; and as the stage-coaches only took fifteen passengers, and the mails only nine, the existing capabilities did not exceed one thousand through passengers a week. The actual number fell very far short. The capabilities of all the other great roads were very much less.—What, then, would have been thought, in those days, of a scheme to bring up three millions of people to town, within twenty-three weeks, from an average distance of a hundred miles? As the great stream did not set in till the first week of June, the average weekly arrivals of provincial visitors from that day was about a hundred thousand. Thirty years ago we doubt whether all the public conveyances centering in the metropolis were capable of a tenth of that number. It is evident, then, that the Exhibition would have been impossible in those days; and Prince Albert, Mr. Cole, Mr. Paxton, and Messrs. Henderson and Cox, would have been thought very proper subjects for Bedlam.

Railroads have literally paved the way for the exhibition. The artisans of Birmingham have achieved their threatened march to the metropolis on shoes of iron; and, as it happens, they are by no means the most remote or the most numerous of our visitors. There have been times in history, and those not very remote, when the roads and conveyances, the beasts of burden and the shipping of a country, were seldom surveyed and summed up, except for the purpose of calculating how many men could be conveyed in a given time to the work of destruction. Would the roads bear the passage of heavy artillery? Was there forage for cavalry and wagon horses? Were the rivers fordable, or did there exist the materials for temporary bridges? A Caesar or Napoleon had a wonderful faculty for mustering the physical resources of a country with a view to that great exhibition of a pitched battle. We will not venture to say how many an embryo Napoleon is turning an evil eye on the rail, and calculating its capacity for military traffic, but hitherto its mission has been happily peaceful. How much more may be done in way of peace—how far what has been done this year may be repeated every year—how far the railway companies may now be enabled to lower their fares to meet a larger traffic—and how far it may be the interest of the metropolitan railway companies to provide, at their own expense, objects of attraction in the metropolis, are among the great questions suggested by the marvellous success of this experiment. Next to

the Exhibition itself, and the numbers brought to it by the railways, the next most striking fact of the year is the extraordinary profit that has flowed into their exhausted exchequers.

Prior to the opening of the Exhibition the increase in the traffic of the eight metropolitan lines over the corresponding period of last year amounted to £156,037, or 9.05 per cent. The increase in the other lines of railway in the United Kingdom up to that date amounted to £305,904, or 14.30 per cent. During twenty-three weeks of the Exhibition, a very great change took place in these proportions, for, instead of the traffic on the metropolitan lines being only 9 per cent., as at the commencement of the Exhibition, it gradually rose to 28 per cent., while the traffic on the other lines of the United Kingdom, which was 14.30 at the commencement, gradually receded to 8.42 per cent.—The total increase of the railways of the United Kingdom for the seventeen weeks, ending May 3d, amounted to £461,941, and for the twenty-three weeks, ending October 11, to £1,107,180; of which £821,863 was the increase on the metropolitan lines, leaving but £285,317 for the increase of the other lines. Had the rate of increase during the first seventeen weeks of the year continued during the twenty-three weeks of the Exhibition, the increase for that period would have been £264,380, which, deducted from £821,863, the actual increase as above stated, leaves £557,483 as the extra receipts from the Exhibition as compared with those of the corresponding period of 1850. It thus appears that immense as have been the receipts of the Exhibition itself, the receipts of the eight metropolitan lines from the same source have been greater. Nay, it is evident that it would have answered their purpose to defray all the expenses of the Exhibition, and hand over the whole of the £505,000 received for admission, &c., to the Royal Commissioners, to be applied as they please. If this suggestion is too late for this year, it is in good time for another, and for many more yet to come.—Notwithstanding the great reduction of fares made by all the railways to meet the general class of visitors, that reduction may be carried still further, or rather the accommodation given for the same fares may be greatly increased, and yet leave a handsome profit to the companies. Further, we beg to suggest, whether it will not answer the purpose of the metropolitan railways to contribute towards maintaining periodical and even permanent attractions of the same sort; such, for example, as would be implied in the notion of a winter garden used occasionally for entertainments and exhibitions. Of course it would be ridiculous to expect that so great an occasion as that we have witnessed could be sustained; but something on a less scale, and varying from year to year, might answer the purpose.

The total increase of £821,863 for the twenty-three weeks ending October 11, is divided among the metropolitan lines in the following proportions: The Eastern Counties, £18,150; Great Western, £162,723; Great Northern, £176,537; London and North-western, £259,010; London and Blackwall, £7,249; London, Brighton and South Coast, £29,631; South-western, £87,068; South-eastern, £81,596. Though a considerable part of this increase has been absorbed in additional expenses, still there can be no doubt that the railways had received the lion's share of the profits. Nor has the Exhibition traffic been accompanied with a positive loss of traffic in other directions, except in a few special instances. The aggregate traffic of all the railways of the United Kingdom from January 1 to October 11 is greater than for the same period of last year, by no less an amount than £1,581,604, and nearly three millions greater than that for the same period of 1849. To what extent the expenditure of the Exhibition visitors has been withdrawn from other objects it is difficult to say; but it is certain, from the returns of the Board of Trade and the revenue tables, that the general consumption of imports and excisable articles has been greater than usual this year. It is also satisfactory to know, as we are informed from various quarters, that the money spent on the Exhibition by its provincial visitors has been generally rather saved beforehand than borrowed at the time; so that we need not apprehend a reaction such as usually follows an improvident expenditure.

Virginia.

Northwestern Railroad.—we copy the following from the pamphlet just issued by the above company, for the purpose of showing its present condition, and the relative object their road bears to other lines:—

The Northwestern Virginia railroad company was chartered by the Legislature of Virginia on the 14th of February, 1851, "for the purpose of constructing a railroad from Parkersburg in the county of Wood, to intersect the line of the Baltimore and Ohio railroad, at some eligible and convenient point at or near the mouth of Three Fork in the county of Taylor." Its capital stock, as fixed by the charter, is \$1,500,000, but may be increased at the pleasure of the company; and it has power to borrow money for the completion of its work, to any amount it may deem proper, and to pledge its property for the payment.

The incorporation was to take effect when three thousand shares, of fifty dollars each, were subscribed. Books were opened in Virginia in July last, when 3,326 shares were taken at Parkersburg, 46 at Clarksburg and 75 at Weston, making an aggregate of 3,477 shares, or \$172,350. On the 2d of August, the company was duly organized by the election of a President and five Directors. The board immediately appointed Benjamin H. Latrobe, Esq., the experienced Chief Engineer of the Baltimore and Ohio company, to the same office in the new company, and directed him to organize, as soon as possible, at least three engineering parties, and cause a thorough examination of the country lying between the termini fixed by the charter to be made, with a view of determining the best and most practicable route for a railroad between these points. Surveys have accordingly been in progress since the beginning of September, and, so far as they have progressed, they indicate that the country is more favorable than had been anticipated.

The mouth of Three Fork creek is made a point in the act authorising the extension of the Baltimore and Ohio railroad to Wheeling. It lies nearly due east of Parkersburg, 86 miles distant by an air line, and on the direct line from that place to Baltimore. The B. and O. railroad will be opened to the mouth of Three Fork next spring, and to Wheeling within one year thereafter. Whatever advantages may be derived from the extension to Wheeling, they are not those which Baltimore has been so long seeking and expecting, and are besides in danger of being greatly diminished by the new route projected through Pennsylvania. Cincinnati is now, and is destined to remain, the great commercial metropolis of the west; and to that point all the western improvements converge. It is a connection with that city, for which Philadelphia, New York and even Boston, are striving; and Baltimore has not failed to perceive, that her peculiar interests call for similar exertions, with stronger assurances of complete success.

Parkersburg lies very nearly on the direct line between the mouth of Three Fork creek and Cincinnati. Any divergence from this line must necessarily increase the distance to be travelled between its extremes; and as it is now ascertained that railroads, leading from Parkersburg to the point named, can be constructed without any unusual deviation from their true line of direction, it follows, that the route from Three Fork to Parkersburg and thence to Cincinnati, will afford to Baltimore the shortest possible connection with that city.

The advocates of the proposed routes from Philadelphia to Cincinnati have failed to show, that there is any shorter practicable route between those cities than by way of Baltimore, and Parkersburg. Should such a route hereafter be discovered, Cincinnati and the great valley of the Ohio will still be many miles nearer to tide water at Baltimore than to any of her commercial rivals. This gives to Baltimore an immense advantage in competing for the trade of the Western States. Their productions are bulky, and whether destined to supply the consumption of foreign countries, or of the Atlantic States, all experience assures us they will seek the shortest avenue to tidewater, as the cost of transportation to their eventual destination will thereby be greatly diminished. Baltimore will not

only become the port whence these commodities will be shipped, but also the principal market for their sale. With these advantages so palpably within our grasp, and in view of the active exertions of her competitors for this great trade, Baltimore will act a suicidal part if she neglects, or even delays, to complete her connection with the great west.

Cars will be running between Cincinnati and Hillsborough, a distance of sixty miles, on the route to Parkersburg, in December next; and an additional twenty miles has recently been put under contract. This leaves 95 miles west of Parkersburg, now being surveyed under a resolution of the Hillsborough and Cincinnati railroad company, directing their engineer "to make the necessary explorations and surveys for the determination and ultimate location of a line of railway, upon the shortest and most practicable possible route from Hillsborough to Belpre, opposite Parkersburg." A prompt and liberal subscription by the city and citizens of Baltimore to the stock of the Northwestern road, by giving assurance of its speedy completion, will tend to render certain, the early, if not contemporaneous, completion of the road west of the Ohio.

To show more succinctly the advantages of the route here proposed, the railroad distances between the several points named, derived from the most reliable sources, are given in tabular form:

From Baltimore to Cumberland, [completed].....	179 Miles.
From Cumberland to Three Fork, [nearly completed].....	101 "
From Three Fork to Parkersburg, not exceeding.....	115 "
From Parkersburg to Hillsborough, [20 miles under contract].....	115 "
From Hillsborough to Cincinnati, [23 miles completed, 38 nearly].....	60 "

Distance from tide water at Baltimore to Cincinnati.....	570 "
Deduct for Knobly cut-off, near Cumberland.....	10 "

And there is left.....	560 "
Add railroad distance from Philadelphia to Baltimore.....	98 "

Distance from Philadelphia to Cincinnati by this route.....	658 "
---	-------

The following tables show the distances between the same points by the Pennsylvania and Hempfield railroads, and different routes west of the Ohio:—

Via Ohio Central Railroad.

From Philadelphia to Greensburg.....	325 Miles
From Greensburg to Wheeling.....	83 "
From Wheeling to Cincinnati.....	263 "
Total.....	671 "

Via Marietta and Cincinnati Railroad.

From Philadelphia to Wheeling, as above.....	408 Miles.
From Wheeling to Marietta.....	80 "
From Marietta to Cincinnati.....	199 "
Total.....	687 "

These statements show a difference in favor of the Baltimore, Parkersburg and Hillsboro route, of 13 miles in the one case, and 29 miles in the other, and they also show, what is still more important, that Cincinnati is nearer to Baltimore than Philadelphia by 98, 111 and 127 miles, according to the route selected. The number of miles of railroad yet to be constructed to complete the first route, does not exceed, if it equals, that of either of the others.

The position of Parkersburg also presents some peculiar advantages. It is some 40 miles west and 50 south of Wheeling, and, as before remarked, very nearly on the direct line from Three Fork to Cincinnati; and thus while its railroad distance from Baltimore exceeds that of Wheeling by not more than 15 miles, it is, as shown by the above table, 88 miles nearer to Cincinnati, and by the roads usually traveled, about equidistant from Zanesville and 20 miles nearer to Columbus. It is 96

miles lower down the river than Wheeling, and its railroad distance from Baltimore is 13 miles less than from Philadelphia to Wheeling; and consequently passengers and merchandise, using the river in passing to or from the seaboard, save at least 7 hours in descending and 10 hours in ascending by embarking or landing at Parkersburg, when the navigation is impeded by low water or ice. In other words, passengers and merchandise, in leaving Parkersburg by railroad, can be at Cumberland before they can reach Wheeling by steamboat. The disparity is greatly increased when the water is low, for not only are the obstructions generally more formidable above than below Parkersburg, but there are, of course, more of them to be encountered by those who take or leave the river at Wheeling; while the difference in latitude diminishes the delays caused by fast or floating ice. It is evident, that under any circumstances, the river will continue to be used for the transportation of heavy goods. Parkersburg has one of the best and most commodious harbors on the Ohio, and steamboats can easily make two trips a week between there and Cincinnati, stopping as usual at the intermediate ports.

The northwestern Virginia railroad, being in fact the extension of an established road between great commercial marts, offers to those disposed to subscribe to its stock, the certainty of early dividends; and it may be added with equal confidence, that its dividends will, from the beginning, exceed the legal rate of interest. The reinvested surplus of the Baltimore and Ohio company for the year ending October 1st, 1850, was equal to nearly eight and a half per cent, upon the cost of the road east of Cumberland, including the reconstruction and improvements east of Harper's Ferry. Can it be doubted that the receipts of the new road will be at least equal, mile for mile? The cost of the former was nearly \$49,000 per mile, while that of the latter is estimated at only \$25,000, and owing to the cheapness of provisions and materials in the country through which it will be located, may fall below this estimate; and thus, with equal receipts per mile, its dividends will be declared upon a cost per mile, less by one-half than that of the road with which it is compared.

It is hardly necessary to remind the citizens of Baltimore of the fact, that the completion of the proposed extension must necessarily greatly increase the revenues of the Baltimore and Ohio company. The city, in its corporate capacity, being a principal stockholder in that company, is called on by considerations of pecuniary advantage, if there are no others, to aid in the extension. Her revenues from that source must be increased to an amount equal to the interest on a liberal subscription to the stock of the new company; and the surplus revenue from both must be sufficient rapidly to absorb the debt created for the purpose, leaving her afterwards in the receipt of a permanent revenue to be applied to the reduction of her taxes, or the aid of other works in which she has an interest. But this is among the least of the benefits she will derive from a line of railroad to Cincinnati. Increased population and business, with a corresponding rise in the price of property, and advantages, of which what she has already done gives her the most reliable assurance.

As to the restrictions found in the seventh section of the charter, it is sufficient to observe, that it is now morally certain the Baltimore and Ohio railroad will be completed to Wheeling, in the manner prescribed, at least twelve months before the northwestern road could be put in operation were the funds for its construction now in the hands of the company. The so-called restrictions are therefore a mere nullity.

Ohio.

Junction Railroad.—The Junction railroad company has made a contract for the entire construction of their road from Sandusky east forty-two miles, to be completed by the 1st of January, 1853. This, with the distance already under contract, completes the connection with the Cleveland and Columbus road at Olmstead. The line west from Sandusky to Port Clinton, including the transit of the Bay, is ready for letting. Beyond Port Clinton the line will be ready as soon as the point on the Maumee river shall be fixed upon.

Railroad Routes through Southern Ohio.

We copy the following from the Scioto Gazette, in reference to the rival routes through southern Ohio. The Gazette we may here state, is the organ of the Marietta and Cincinnati railroad company. The article we understand is in reply to that part of the late report of the Baltimore and Ohio railroad, which refers to its western connections, and favors the idea of the extension of the Hillsboro railroad to the Ohio at Belpre. The Gazette claims that the Marietta and Cincinnati railroad occupies the only practicable line. It says:—

1. The route pursued by the Marietta and Cincinnati railroad, from the Queen city, across southern Ohio, to the Ohio river, is the shortest and, in regard to cost, only practicable route that could be followed. The line hinted of by Mr. Swann, from Hillsborough, straight to Belpre, would pass over a very rough, hilly country, fully as difficult as that of western Massachusetts, the whole distance, save about 20 miles. The line of the M. & C. company, through Chillicothe, has thirty miles more of plain country to pass over before it strikes the hill region east of the Scioto;—that is, in the same distance, the Chillicothe route has the level plain for thirty miles, where the imaginary rival route would have to "cut" diagonally across barren hills.

2. The M. & C. road will be under contract, from Marietta to the Little Miami road by May next. It is now under contract from the Mineral Region, to the western limit just indicated, [except a few miles on the western extremity;]—and will begin to pay so soon as the iron is down from Chillicothe westward. In order to put any other line on as good a footing, in regard to eastern connections, it will be necessary to begin *anew*, on over 100 miles of route, get the right of way, raise the money, tunnel hills, bridge streams, fill up valleys which do not exist on the M. & C. line—in short, attempt a new, difficult and expensive enterprise.

3. The present route of the M. & C. line is, within less than five miles, as favorable for the Baltimore connexion, as would be the originally contemplated route to Belpre; and immensely more favorable in point of gradients and equated distance, than any "straight" route from Cincinnati to the Parkersburg terminus that could be made south of us. It is, therefore, both idle and impolitic for the Baltimoreans to talk about such rival lines, or to foment a feeling of rivalry among the friends of railroads in this part of the country. While the present route of the Marietta and Cincinnati company, and the acceptance of the Marietta subscriptions holds forth the prospect of early reaching Wheeling, and connecting, through that city, with Philadelphia;—at the same time, as we are firmly convinced, it opens the best and earliest and only feasible route for Baltimore to connect with Cincinnati and the south west. If the north western Va. railroad be constructed to Parkersburg,—and we hope and trust it may,—an addition of ten miles on the western end will interlock it with the Marietta and Cincinnati line. Again by coming down Middle Island creek, in Virginia, the Baltimore interest may make even a cheaper, straighter and better connexion with the west than through Parkersburg. Thirdly, Baltimore will connect with the Marietta and Cincinnati, as well as the Ohio lines, at Wheeling.

Coal in the Valley of Virginia.

The Staunton Messenger states that coal "of the best quality" has been discovered in Augusta county, "on the north fork of North river, about six miles north of Mt. Solon." The vein is from one and a half to three feet thick, and dips to the northwest at an angle of about 45 degrees. It appears to have been unheaved with the hill or mountain in which it is found. The vein or stratum is imbedded between large masses of rock, which renders it somewhat difficult and expensive to work, but no shaft is necessary to reach the coal, as it crops out of the hill side. The indications are that the supply is inexhaustible—the field seemingly extending over a large district of territory.

Finances of Kentucky.

In the message of Governor Powell, of Kentucky, the following items concerning the financial condition of the State are given:—

The actual and supposed receipts of the sinking fund, for the year ending Jan. 1, 1852, are..... \$592,416 47
The actual and estimated amount of disbursements for the same period, are..... 615,025 31

Estimated deficit Jan. 1, 1852..... \$22,608 84
" " Jan. 1, 1853..... 22,572 34
" " Jan. 1, 1854..... 21,335 84

The following is a statement of the public debt of this State:—

There is now due of the public debt. \$445 00
Of bonds bearing 5 per cent interest there will fall due in 14 years the sum of.... \$221,000 00
In 15 years the sum of. 100,000 00
In 20 years the sum of. 165,000 00
In 32 years the sum of. 100,000 00

Total amount of 5 per cent bonds..... \$586,000 00

Of bonds bearing 6 per cent interest, there will fall due in 17 years, the sum of..... \$1,250,000 00
In 19 y's the sum of. 447,500 00
In 20 and 21 years the sum of..... 1,738,000 00
In 23 years the sum of..... 150,000 00
In 25 and 27 years, redeemable after 15 years, at the pleasure of the State..... 69,000 00
In 30 years, Southern bank bonds... 150,000 00
The Cradock fund, 6 per cent..... 6,592 81

Total amount of 6 per cent bonds. 3,811,092 81
Amount of bonds held by the Board of Education..... 1,326,770 01

Total amount of public debt.... \$5,724,307 82
Of the school bonds the sum of \$1,259,270 01 bears 5 per cent interest, and the sum of \$67,500, 6 per cent.

To pay this debt the State has the following resources, if they could be applied to that purpose:—\$939,000 stock in the Bank of Kentucky; \$290,000 of stock in the Northern Bank of Kentucky; \$40,600 of stock in the Bank of Louisville, and \$150,000 of stock in the Southern Bank of Kentucky; to which may be added \$150,000 of stock in the Lexington and Frankfort railroad, and \$76,420 25 bonds on the Louisville and Frankfort railroad company—making in all the sum of \$1,646,020 25. The State has, in addition, \$2,694,239 93 stock in turnpike roads—supposed to be worth about twenty-five or thirty cents on the dollar—besides her investments in rivers, etc.

Railroad Convention.

A convention of counties and corporations favorable to the extension of the Alexandria and Manassas Gap railroad, from Strasburg, in Shenandoah county, Virginia, to intersect the Baltimore and Ohio railroad, at Paddytown, in Hampshire county, Virginia, will be held at Romney, on Tuesday, November 25th. A number of counties and corporations interested have already made provisions to send proper delegations to this convention. The several coal and iron companies of Allegheny county, and all other corporations of that county interested in the object of that convention, are earnestly invited to send representatives to the same.

Reading Railroad.

The intelligent correspondent of the Philadelphia Ledger, "Observer," in a letter from Reading, speaking of the immense business on the railroad between Pottsville and Philadelphia, says:—

"The Reading railroad employs, in all, about fifteen hundred persons, at salaries and wages respectively of about \$60,000 a month, or \$720,000 per annum. It consumes materials in value of \$20,000 a month, or about \$5,000 a week, causing in all (consumption of materials, salaries, and wages,) an annual outlay of \$840,000, all expended on its own ground. Some of the items of its manufacture are particularly interesting and striking. Thus, it manufactures thirty wheels a day to perpetuate its machinery and cars, and requires annually from seven to eight hundred tons of new rails, for repairs only. It consumes daily 450 cords of wood, and evaporates in the same space of time half a million gallons of water.

Yet, with all the expenses of the road, the employment of so many hands, the consumption of fuel, labor, repairs, etc., the cost of transportation falls yet short of 62 cents per ton, such is the enormous quantity of coal brought down every year for consumption. Indeed, the Reading railroad transports more tons of merchandise, and receives more per mile than any railroad in the world, and exceeds, in this respect, both the Great Western and the London and Birmingham railroads in England."

Hempfield Railroad.

The Engineer of this road, Charles Ellet, Jr., reports to the directors, that surveys of three several routes have been completed, viz:—

1. By the way of Wheeling Creek, Washington, Mingo Creek, Monongahela City, and Big Sewickley..... 77 7-10 miles.
2. By the way of Wheeling Creek, Washington, Peter's Creek, Elizabethtown, and Little Sewickley..... 78 1-10 miles.
3. By the way of Wheeling Creek, Washington, the North Fork of Pigeon Creek, Maple Creek, and Belvernon..... 78 7-10 miles.

The surveys commence at the Central railroad company's depot at Greensburg, and terminate at the eastern abutment of the Wheeling bridge.

The maximum grade encountered is 66 feet to the mile.

The report recommends the immediate commencement of work upon the first division, from Wheeling to Washington, and advises, that the second division, from Washington to Monongahela river, be placed under contract, as soon as \$150,000 more shall be subscribed to the stock of the company, so as to bring the amount up to \$900,000.

In pursuance with the above recommendation, the board of directors at a meeting held on the 5th instant, adopted the following resolutions:—

Resolved, That the President and Chief Engineer be authorized to contract for the grading of the first division of the road, from Wheeling to Washington, as soon as the plans and estimates can be prepared.

Resolved, That the Chief Engineer prepare for grading the second division from Washington to the Monongahela river, as soon as additional stock to the amount of \$150,000 can be raised and the route determined; and that the President and Chief Engineer be authorized to contract for the heavy jobs on that division so soon as the additional subscription of \$150,000 be procured.

Resolved, That the third division, from the Monongahela river to Greensburg, will be placed under contract so soon as the requisite additional stock can be procured.

Virginia.

Central Railroad.—The annual meeting of this company was held at Louisa Court House on Saturday, the 8th inst. The president's report stated that the receipts for transportation for the year ending 30th September, 1851, were \$143,801 64, being an increase over last year of \$52,722 81. The profits being equal to 7 per cent. of the capital invested, which have been applied to construction of new road, furnishing the same with motive power, etc.

The president's salary was raised from \$1,500 to \$2,000. John H. Timberlake and David Anderson, of Richmond, were elected directors. The Charlottesville Jeffersonian says:

The road to Woodville, eight miles west of Charlottesville, the report says, will certainly be done during the month of November.

The tunnel at Rockfish Gap is prosecuted with unabated energy and industry; and from the improved character of the rock, it is believed by the contractors that the whole work may be completed in three years from this time.

Indiana.

Terre Haute Road.—Since the commencement of laying the rails on the Terre Haute and Indianapolis road, we have, from time to time, advised our readers of the progress still made in the work. Everything has gone on well; the work on both ends is fast advancing to a close. Only about fifteen miles of the road, we understand, separates the two advance parties of workmen—and of course that much only unfinished; and this distance shortening every day. The prospect now is that the road will be completed for use by the middle of December.

A new passenger car locomotive, called Vigo, is already at the depot in this place; and another or two every day expected. Splendid passenger cars have been built at Columbus, and will be on the road by the time it is finished. Thus we can almost now hear the whistle and bell, and the cry of "all aboard," as the cars steam away for Indianapolis.

We understand arrangements are being made to have the western mail, which now passes by the way of Louisville, immediately changed to this road, as soon as completed, and carried by way of Terre Haute to St. Louis. It is contemplated by the present stage company immediately on the completion of the road, to take off their stages and stock now on the line between Terre Haute and Indianapolis, and place the same west, on the road to St. Louis; thereby doubling the daily line between Terre Haute and St. Louis. These arrangements will give great facilities in travelling, besides a fresh impulse to business.

In connection with this change of mails and increase of business, we suppose it will become necessary for the department at Washington to convert the Terre Haute office into a distributing office; a change which has long been desirable here—and which must now become indispensable.—*Terre Haute Courier.*

Indiana.

Ohio and Indiana Railroad.—The engineers have completed the survey of this work. Several different lines have been run through our streets, but as yet the location of the depot has not been determined. Estimates of the expense of the various routes will be prepared and submitted to the board of directors, who will then decide the question. In making this decision, we repeat the hope expressed by us last week, that the directors will look solely to the interests of the company, and the convenience of the general trade of the city, without any bias in favor of particular individual interests.

At the recent Ohio election a vote was taken in Van Wert, on the question of that county's subscribing \$50,000 to the stock of the company, and carried by a large majority.

Should the present stringency in the money market subside, so that the bonds of the company could be negotiated, we see no reason to doubt that the work may be put under contract this winter, or

early in the spring. We do not despair of being able to take a railroad trip to Philadelphia within three years from this time.—*Fort Wayne Sentinel.*

Ohio.

Steubenville and Indiana Railroad under contract.—We are requested to state that the entire road, from Steubenville to Newark, a distance of 116 miles, has been contracted for on the most advantageous terms to the company. The contracts embrace not only the graduation and masonry, but the superstructure and equipments of the road, inclusive of ten first class locomotives, ten first class passenger cars, and suitable trains of burthen cars. The necessary turnouts and the branch roads to Cadiz, New Philadelphia and Dresden are also provided for. The entire work from Steubenville to Newark is to be in complete and full operation in two years from the 1st of January next. The graduation, &c. of the first 28 miles has been let in sections to responsible and experienced workmen, some of whom have just completed heavy jobs on the Pennsylvania and Ohio road. The residue of the work, including the superstructure and equipments for the entire road, has been taken by Messrs. Dillee & Co., who are possessed of ample means and all necessary experience in railroad work, to ensure the fulfilment of their part of the undertaking. We congratulate the company, the public, and all parties concerned, on this auspicious result; for which they are doubtless mainly indebted to the ability and untiring industry of the able President of the company, D. Gilgore, Esq.—*Steubenville Herald.*

Cincinnati, Hamilton and Dayton Railway.—The Cincinnati, Hamilton and Dayton railway in an unfinished state was partially opened on the 20th of September. It has been run since that time in its unfinished condition, by two passenger trains a day. No freight train has yet been placed on the road, and there has been very little travel through from Sandusky. The business done on the line has been altogether local. The earnings of the road in this condition for the
Ten days in September were\$2,577 25
October16,838 84

Total, one month, and ten days\$19,176 11

This income is but an earnest of what the road will earn when in full operation, and it goes far to confirm the opinion heretofore expressed, that this road, when finished and put in complete operation, will be one of the very best paying roads in the United States.—*Cin. Gaz.*

Canada.

Another Railroad from the St. Lawrence to Lake Huron.—A project of building a railroad from Prescott, on the St. Lawrence, to Lake Huron, is attracting considerable attention in Canada. From Prescott to Georgian Bay, the distance is 270 miles. It is easy to see that such a road would shorten the distance very materially from Boston to the Lake Superior region, and the great Northwest; and its construction is likely to be aided by that city, and by the lines of railroad that would be brought into connection with the proposed road. Meetings have already been held in Prescott and Brookville, in Canada, in reference to the above project, and subscriptions are being raised for a survey of the route.

The Ogdensburg Sentinel expresses great confidence in the success of the measure. That paper says:—

"Passing, as it will, through the very garden of Canada, and connecting with Lake Huron, at a point nearly opposite the straits that unite that lake with Lakes Michigan and Superior, and saving an immense distance of travel and transportation from Michigan, Wisconsin, Illinois, and the Mississippi river, it will almost of necessity be the great thoroughfare for the Atlantic business of the immense region through which it passes, and with which it will be the shortest, quickest, and most commodious channel of communication.

Diving Vessels.

In our late sojourn in Paris, our attention was attracted to a diving apparatus worked on the river Seine, in front of the Institute. It is a new and happy modification of the diving-bell, invented by M. Cave, the eminent engineer, for the purpose of descending to the bottom of rivers, and carrying on works there with greater facility than by the ordinary diving-bell. On the front of a dredging vessel is placed a large chamber, made of sheet-iron, having the form of an elongated hemispherical cup, 22 feet nine inches in diameter, and 16 feet 3 inches in height. In the centre of the bottom of the vessel there is a large opening which communicates with the river, and in it is placed vertically a large cylinder of sheet-iron, open at either extremity, and which can, by means of grooves, be lowered to any depth that may be required. When it is desired to examine the bottom of the river, it suffices to lower the cylinder; and, by the aid of an air-pump, a large quantity of compressed air is forced into the chamber. The water by that means is expelled underneath the cylinder, until at length the bottom of the river is left dry. The workmen can then descend inside the cylinder, and proceed with the work without any difficulty.

For communicating from without with the chamber, there is provided an ante-chamber, for persons to go in and out without allowing the compressed air to escape from the inner chamber. The doors of the inner chamber are hermetically closed, by which means the loss of compressed air is small, and is easily replaced. For the purpose of opening the inner door, it is necessary to open a valve to allow a small quantity of air in the inner chamber to escape into the ante-room, to restore a balance and make the pressure the same on both sides of the door. And a similar contrivance is necessary in the outer door; but before the valve is opened in the outer door, care must be taken to close the inner door and valve. There is another contrivance for forming an air-tight connexion between the vertical cylinder before described and the chamber. This is effected by a flexible joint or tube made of leather; one end is fastened to the bottom of the chamber and the other to the top of the cylinder. This leather flexible tube allows some play in the cylinder, so as to adapt it to various depths of water or variations in the depths of the river. The compression of the air is very easily accomplished by the steam engine which usually accompanies dredging vessels. The engine works two air-pumps, which communicate by a pipe to the chamber, and supply compressed air at discretion; of course the density of the air must be in proportion to the depth of the water. It would appear that the workmen do not feel any particular difficulty in working in such an atmosphere; the only inconvenience in the augmentation of the density of the air is a slight pressure and noise in the ears. This vessel on the Seine is only an experimental one, to show that all descriptions of work can be performed under water with the greatest facility. M. Cave has already established two similar vessels for scouring the mud-banks of the Nile. The dimensions of them are much larger, the cylinders being 29 feet 3 in. by 19 feet 6 inches.—*London Architect.*

New London, Willimantic and Palmer Railroad.

At a meeting of the stockholders of this railroad at New London on the 12th instant, the annual report of the directors was presented, from which it appears that the cost of the road, up to this date, is \$1,450,000. The length of the road is 66 miles.—It was opened from New London to Willimantic, in November, 1849, at Stafford Springs, in March, 1850, and to Palmer, where it connects with the Western railroad, in September, 1850. The total receipts have amounted to \$167,400, and the expenses of working and repairs to \$86,200. Of this amount a part has been appropriated to the payment of loans, and interest on bonds, leaving a balance of earnings of \$15,718. The receipts of the last season exceeded those of the preceding season by 50 per cent. It is proposed to extend the road in this State in the ensuing year from Palmer through Belchertown to Amherst, and by the Ware river towards Barre.—*Daily Advertiser.*

State Debt of Georgia.

The message of Governor Towns is calculated to deceive the people of Georgia in regard to the amount of the State debt. It estimates the debt at \$1,424,722 22; but does not include in the estimate the liability of the State, on the account of the Central Bank. That liability, which will have to be met out of the Treasury, is \$371,000, and the assets of the bank are only estimated at \$100,000—leaving a balance of \$271,000. The Treasurer's report states the matter as follows:—

Due July 1st, 1853, at 6 per cent	\$10,000 00
Due Jan. 1st, 1858,	22,222 22
Due July 1st, 1863,	45,000 00
Due July 1st, 1863,	25,000 00
Due July 1st, 1868,	216 500 00
Due Sep. 1st, 1869,	301,500 00
Due June 1st, 1870,	202,750 00
Due July 1st, 1871,	219,750 00
Due June 1st, 1872,	130,250 00
Due Jan. 1st, 1873,	170,750 00
Due Jan. 1st, 1873,	41,000 00
Due May 1st, 1874,	81,500 00
Due May 1st, 1874, 7 "	183,500 00
Sterling bonds at 5 per cent	72,000 00
Central Bank liability	271,000 00

Aggregate actual debt\$1,995,722 22

The last item on account of the Central Bank, is not included in the Treasurer's report, but it is so clearly a liability of the State, that it ought to have been so reported.

To the above must be added the sum of \$168,542 18 for 4,200 tons of iron purchased for the State road without any authority by law by the engineer, with executive approbation. This claim, if assumed by the Legislature, will run up the State debt to \$2,164,264 40—being nearly one million larger than stated in the message.

Commerce of Charleston.

The direct trade of Charleston, S. C., has lately increased in an extraordinary degree, and promises to extend itself still further. The "News" of that city states that the receipts of the revenue at the custom house there, for the last three months, have averaged about \$100,000 per month, exclusive of the duties to be paid on goods which have gone into warehouse. The usual quarterly average receipts for duties at the places referred to, is said to have been \$100,000, exhibiting at this rate a quarterly increase of 200 per cent. This rapid and prodigious growth of the direct foreign commerce of Charleston will make it of more importance as an entrepot of trade with the section of country immediately related to it by railroad and other means of intercourse; and as its business operations and wealth are multiplied, so commercial connection with it will become more valuable.

Extension of the Ohio and Indiana Railroad Westward.

Last week we noticed the eastern connections of our railroad, not only with Pittsburg and Philadelphia, but also with Cleveland and Dunkirk, through the Columbus and Cleveland road, which it intersects at Crestline, 76 miles northwest of the last named city. As a matter of interest to the counties lying west of us, we may now refer to the proposed extension westward in the direction of Chicago, Ottawa, and the upper Mississippi, which we understand is the aim of the company, as the means can be provided for grading the road. For the intermediate country lying between the Wabash and Erie canal and the northern Indiana railroad, this will furnish the shortest and most natural route either to Philadelphia, New York, Pittsburg, or Cleveland. Fort Wayne, by railroad, is but 210 miles, and Warsaw, but 260 miles from Cleveland. Taking Warsaw, therefore, as a central point in this intermediate district, the distance thence to Cleveland, [and the traveller cares not to strike the lake west of Cleveland,] by our railroad is about 28 miles less than by the proposed intersection with the southern-Michigan road at Goshen. To the other prominent points in that section of the State, Plymouth, Rochester, Peru and Logansport, a like

saving distance is offered by intersecting our route at some point west of this. From Logansport to Cleveland the distance would be some 30 miles less by intersecting our road, even as far west as Warsaw, than by the connection with the Bellefontaine road at Andersonstown.—*Port Wayne Times*.

American Railroad Journal.

Saturday, November 30, 1851.

Vermont

One of the most exciting topics before the Vermont Legislature, which has just adjourned, was the petition of the Atlantic and St. Lawrence railroad company for a further time in which to locate their line. It was originally contemplated to run up the Connecticut. Subsequently, surveys showed that a more favorable route could be obtained by following up one of the branches of the river, called the Nulhegan. The company wished to adopt the west branch of the latter stream, but as a doubt existed as to their right to bear so far to the west, they made a formal location on the east branch, to comply with the provisions of their charter. The time limited for the location having expired the company petitioned to have this extended; and as their wishes as to the route were well known, the real point that came up for discussion was, whether they should be allowed to locate on the west branch. The most formidable opposition came from the Passumpsic railroad, and the people of Derby and its vicinity. The former claimed that the route contended for, in equity, belonged to them, and that they wished to improve it, for the purpose of extending their road into Canada; the Derby people insisted that if the Atlantic and St. Lawrence railroad wished any further privileges, they should purchase them by being compelled to make a long detour for the convenience of the inhabitants of a particular section. These considerations were all overruled, and the petition was granted by a large majority.

The route of the Atlantic and St. Lawrence railroad is now definitely located, as is that of the St. Lawrence and Atlantic. A conference was recently held by these two companies, at which it was agreed that Island Pond, one of the head waters of Clyde river, should be their point of junction.—This point is about 13 miles south of the Canada lines. This distance is built and owned by the Canada company. The latter company were exceedingly desirous to have the junction fixed as agreed, for the purpose of connecting their line with the Passumpsic road, and so form a direct route to Boston. The Atlantic and St. Lawrence company favored the location, for the reason that it is upon the shortest and most convenient line to Rouse's Point, to which they contemplate opening a branch as soon as the main trunk shall be completed. Island Pond, therefore bids fair to become the most important place in Northern Vermont, being the point of junction of four important lines of railroad. It is about equi-distant from Portland and Montreal, and surrounded by a fertile country. As it will be the terminus of the above road, the necessary buildings to accommodate their wants, will, of themselves, constitute quite a town.

All disputed questions having thus been disposed of, the great line from Montreal to Portland will now be pushed forward with energy, and we expect in a year from this time to see the cars running from one city to the other, and in a year more from the city of Quebec to Montreal, Portland and Boston.

Peru and Indianapolis Railroad.

This road, as its name indicates, extends from the capital of the State to the Wabash canal, at Peru, a distance of 73 miles. It is looked upon as an important project in Indiana, from the fact that it opens the shortest outlet for the central part of the State, to New York. The Wabash canal has diverted the trade of all that section of country within reach of it, from the southern to the northern or lake route. New York is the commercial terminus of every line of internal communication in the United States, and will use the lake route in connection with the canals and railroads of the west, as soon as they are completed, as her means of intercourse with that great region. The northern route, as it is called, is the cheapest, most expeditious, and more favorable in every respect for the region named, than the river route by the way of New Orleans.

The distance from Toledo to Peru is 166 miles, and to Indianapolis 238. From the latter place, the lakes can be reached over the Peru road, by a much shorter route than any other. For this reason, the above road, when opened, must command the trade of central Indiana. A merchant at Indianapolis, having a quantity of produce to forward to, or wishing to order merchandise from, New York, would use the Peru road, as the shortest and cheapest route. What would be true of Indianapolis, would be equally so of all parts of the country within 30 or 40 miles of the town. Each projected road in Indiana is being constructed with a view to the accomplishment of certain objects.—The Terre Haute and Bellefontaine road will command the great stream of travel flowing east and west. The Madison and Jeffersonville roads open outlets to the Ohio, and southern markets. The Lafayette and Lawrenceburg roads will form an important part of the great through line between Cincinnati and Chicago. The Peru road will open an outlet north, and constitute the great channel of business communication between a large portion of Indiana and New York. On this ground, it occupies a prominent position among the roads of Indiana, and we believe it cannot fail to be one of the most productive. Its cost, we presume, will be much less than that of any other road.

Of the whole road, 22½ miles were opened in March last and is doing a remarkably fine business. The balance of the line is under contract, to be finished next season. The contract embraces all but machinery. We learn that Messrs Tomlinson & Co., the contractors, are pushing the work with extraordinary energy—that all the grading has been sublet to be finished by the first of April next, that the foundations of the White River Bridge at Noblesville have been completed, and that this structure will be completed early in the spring, so as to admit the commencement of the work of track laying at an early day. The Indiana papers speak in the highest terms of the efficiency of the contractors, who are winning golden opinions for the prompt and energetic manner they are pushing the work.

The road is to be run by the Madison company. We learn that a contract is soon to be given out for iron, so as to have it delivered at New Orleans in season to take advantage of high water in the spring.

We are happy to chronicle the new impulse given to this work. The people interested in its construction, feeling assured that this is secured, are now taking hold of it with renewed earnestness and vigor.

Internal Improvement Conventions.

A great southern and western railroad convention is to be held in New Orleans on the second Monday in January.

It is also proposed to hold a State internal improvement convention in Kentucky, during the session of the Legislature.

A convention is soon to be held at Peoria, Illinois, to devise some method of improving the navigation of the Illinois river.

Stock and Money Market.

We have little change to note in the general condition of the market since our last. Money still remains scarce for all projects out of the regular business channels, where it is tolerably abundant. It is with difficulty that loans are effected for new works, or in fact for any project the reputation of which is not well established.

As some of our readers may perhaps be misled by the report of the state of the market to be found in the daily papers, which quote the loans at 7 and 8 per cent, we would state that such loans are effected upon a security that has a known and determined value. Take the Erie stock for instance. This will sell on the instant, for a given amount. Those having money lying idle for a short time, make what is termed *call* loans, upon securities that have the attribute of *instant* convertibility, as they can realize their money at any moment. Such loans it will be seen are no guide for those who offer what may be said to have no market value, but what is purchased for permanent investment.

The great cause of the present difficulty of obtaining money for railroad, is the vast number of projects offerings. On that account we think the railroad companies must pay a large bonus for some time to come. The supply regulates the demand and rate. A large number of our new road will be soon in operation and will begin to pay off their indebtedness, which will in time tend much to alleviate the pressure caused by the immense sums we are putting into our public works.

It is stated unofficially that the Erie will declare a 4 per cent. January dividend out of the earnings of the road, and that it will have a surplus of 1½ per cent. left. If this should prove correct, the Erie will make a more favorable exhibit of earnings for the first six months than any road ever opened in the United States. It is also stated that the cost of operations does not exceed 43 per cent of its earnings. The effect of this announcement has been to carry the stock to a high figure. If the road in its present condition and before any of its western connections are formed, can earn 5½ per cent for six months, it can greatly increase this amount when all these are completed.

The Evening Journal gives the annexed statement of the quantity of flour, wheat, corn and barley, left at tide water during the 2d week in November in the years 1850 and 1851, as follows:

	Flour. bbls.	Wheat. bush.	Corn. bush.	Barley. bush.
1850. . .	202,003	225,422	22,714	109,344
1851. . .	161,844	164,774	84,315	211,435

Dec. . . . 41,159 60,648 Inc. 61,601 102,091

The aggregate quantity of the same articles left at tide water from the commencement of navigation to the 14th Nov., inclusive, during the years 1850 and 1851, is as follows:

	Flour. bbls.	Wheat. bush.	Corn. bush.	Barley. bush.
1850. . .	2,604,855	2,694,362	3,166,392	1,517,416
1851. . .	3,047,048	2,843,197	7,380,374	1,427,680
Inc. . . .	442,193	148,835	4,213,982	dec. 89,736

The aggregate quantity of the same articles left at tide water from the commencement of navigation to the 14th Nov., inclusive, during the years 1849 and 1851, is as follows:

	Flour. bbls.	Wheat. bush.	Corn. bush.	Barley. bush.
1849.....	2,710,155	2,217,737	4,852,409	1,197,415
1851.....	3,047,048	2,843,197	7,380,374	1,427,680
Increase.	336,893	625,460	2,527,965	230,265

By reducing the wheat to flour, the quantity of the latter left at tide water this year, compared with the corresponding period of last year, shows an increase of 471,960 bbls. of flour.

The following from the Boston Courier, will show the fluctuations in stocks the past year. It will be ed that the dividend paying securities have fluctuated but little, and as a general thing, have more than maintained the quotations of a year since; while the "fancies" have varied very largely in price, and with scarcely an exception, are lower than in November, 1850:—

	1850.	Nov.	Feb.	May.	Aug.	Nov.
Boston and Maine.....	105	106	105½	103	105½	105½
Boston and Prov.....	86½	85	89½	85	89½	89½
Boston and Wor.....	102½	106	106	101½	103½	103½
Michigan Central.....	101	95	99½	104½	107½	107½
Fitchburg.....	113	112	112½	109	111	111
Eastern.....	103½	102½	102½	94½	100	100
Western.....	104½	108½	104½	103	104	104
Northern.....	69½	71½	70½	66½	68½	68½
Old Colony.....	61½	68½	68½	66	66½	66½
Fall River.....	86	94	92	93	96½	96½
Rutland.....	57½	57	57½	44	43	43
Reading.....	34½	31½	27½	25½	27½	27½
Ogdensburg.....	38½	39	40	30½	30½	30½
Vermont Central.....	33½	35½	37½	30	26½	26½
Vermont and Mass.....	31½	30	30½	25½	28½	28½
Wilmington.....	36	30½	29½	26½	27½	27½
Norfolk County.....	42	30 bid	20½	20	15½	15½
Cheshire.....	63½	61	58½	49	49	49
Man. & Lawrence.....	91½	90	85	86	75a80	80
Pittsburg Copper						
Co.....	92	99	95 bid	92½	102	102
East Boston Co.....	18½	27½	33	22	21½	21½
Edgeworth Co.....	7½	10½	9½	7½	9	9
Canton Co.....		64½	76½	59½	65	65
Essex Co.....	100	109	107	92	80a85	85
Winnisimmet Co.....	120 bid	160	100 bid	150 ask		
Ogdensburg bonds.....	95½	99½	97½	94	93	93
Vt. Central bonds.....						
'52.....	92½	95	95	93	91	91
Vt. Central bonds.....						
'56.....	86½	92½	91	90	83½	83½
Vt & Mass bonds.....	84½	88	87½	85½	83	83
Rutland bonds.....	84½	87	88½	87	83	83

The above quotations were the prices on the 15th day of each month enumerated, being three months apart. There were important fluctuations between those dates, which it would be almost impossible to give in this form. For instance, the shares of the Vermont Central railroad were at \$37½ on the 15th May, \$30 on the 15th August, and at \$35½ on the 15th of September. At the close of that month and early in October, some fifteen thousand shares, which had been bought and held for speculation, were thrown upon the market, which has not yet recovered from the shock; although the shares are now more scattered, and better held than before.

Morris Canal.—The receipts of the Morris canal company were:—

Week ending 8th inst.....	\$3,822 47
Same week last year.....	2,069 02
Increase in 1851.....	\$1,733 45
Total to 8th November, 1851.....	\$100,094 56
do. do. 1850.....	87,095 83
Increase in 1851.....	\$12,998 73

Illinois and Michigan Canal.—The receipts on the Illinois and Michigan canal during eight months of the year 1851, from March to October, inclusive, were\$97,253 88
Same period in 1850..... 76,515 91

Increase in 1851..... 20,773 97

Michigan Central Railroad.—The earnings of this road for October, were:

Freight.....	\$74,446 22
Passengers.....	95,606 60
Miscellaneous.....	30,670 57
Total.....	200,723 39
October, 1850.....	165,572 93

Increase..... 35,150 46

The working expenses in October, were \$32,500, which is but 16 per cent on the earnings.

The aggregate earnings of the last 11 months have been\$99,720 16
Same time, 1850..... 752,037 54

Increase, 33 per cent..... 247,682 62

Cleveland and Columbus Railroad.—The earnings of this road in October, were:

Passengers.....	\$38,547 43
Mail, etc.....	2,923 79
Freight.....	22,000 00
	63,471 22

Railway Share & Stock List;

CORRECTED WEEKLY FOR THE

AMERICAN RAILROAD JOURNAL.

NEW YORK NOVEMBER 22, 1851.

GOVERNMENT AND STATE SECURITIES.

U. S. 5's, 1853.....	101½
U. S. 6's, 1856.....	106½
U. S. 6's, 1862.....	110½
U. S. 6's, 1862—coupon.....	114½
U. S. 6's, 1867.....	115½
U. S. 6's, 1868.....	116½
U. S. 6's, 1868—coupon.....	122½
Land Warrants.....	140a145
Arkansas 6's.....	52a53
Alabama 5's.....	91a92
Indiana 5's.....	83
Illinois 6's, 1870.....	65a68
Kentucky 6's, 1871.....	104½a106
Massachusetts sterling 5's.....	105a106
Massachusetts 5's, 1859.....	100½
Maine 6's, 1855.....	103
Maryland 6's.....	102½
Michigan.....	—
Mississippi.....	—
New York 6's, 1855.....	103½
Ohio 6's, 1860.....	109
Pennsylvania 5's.....	91

RAILROAD BONDS.

Atlantic and St. Lawrence, 6 per cent.....	85
Baltimore and Ohio, 1867.....	94½
Boston and Providence 6's, 1855.....	101
Boston and Worcester 6's, 1855, convertible.....	107½
Bost., Concord and Mont. 6's, 1860, mortgage.....	87½
Cheshire 6's, 1860.....	91½
Connecticut River 6's, convertible.....	89
Erie 7's, 1859.....	100
Erie 7's, 1868.....	106
Erie income 7's.....	93
Hudson River 7's, 1853.....	101½
Michigan Central, convertible, 8's, 1856.....	104½
New York and New Haven.....	100½
Norwich and Worcester, mortgage, 1860.....	80a85
Old Colony, 1854.....	97½
Ogdensburg 7's, 1859.....	91
Portsmouth and Concord.....	80a85
Passumpsic 6's, 1859.....	94½
Rutland 7's, 1863.....	90
Reading mortgage, 1860.....	78
" " 1870.....	70
Sullivan, mortgage 6's, 1855.....	67
Vermont Central 6's, 1852.....	90
" " 6's, 1856.....	85
Vermont and Massachusetts 6's, 1855.....	86

RAILROAD STOCKS.

[CORRECTED FOR WEDNESDAY OF EACH WEEK.]

	Nov. 12.	Nov. 19.
Albany and Schenectady.....	89½	93
Atlantic and St. Lawrence.....	60a65	—
Androscoggin and Kennebec.....	30a35	—
Boston and Maine.....	106½	105½
Boston and Lowell.....	108	109
Boston and Worcester.....	109	102
Boston and Providence.....	89½	86
Bost., Concord and Montreal.....	36	—
Baltimore and Ohio.....	67½	—
Baltimore and Susquehanna.....	34	—
Cheshire.....	47	48
Cleveland and Columbus.....	—	—
Columbus and Xenia.....	—	—
Camden and Amboy.....	—	—
Connecticut River.....	60	—
Delaware and Hudson (canal).....	108½	107½
Eastern.....	99½	95½
Erie.....	82	87
Fall River.....	96½	94
Fitchburg.....	111	110½
Georgia.....	—	—
Georgia Central.....	—	—
Harlem.....	66	68½
Hartford and New Haven.....	122	—
Housatonic (preferred).....	—	—
Hudson River.....	70	74½
Kennebec and Portland.....	50a55	—
Little Miami.....	—	—
Long Island.....	15	14½
Mad River.....	—	—
Madison and Indianapolis.....	90	93
Michigan Central.....	105	108½
Montgomery and West Point.....	—	—
Michigan Southern.....	—	—
Manchester and Lawrence.....	70	—
Morris (canal).....	14½	15½
New York and New Haven.....	109	108
New Jersey.....	—	130
Northern.....	68½	68
Nashua and Lowell.....	104½	—
New Bedford and Taunton.....	108	—
Norwich and Worcester.....	55	46½
Norfolk County.....	9	16
Ogdensburg.....	31	30½
Old Colony.....	66	65
Passumpsic.....	70½	72
Pennsylvania.....	—	—
Pittsfield and North Adams.....	95	—
Philadelphia, Wilm'gton & Balt.....	27½	28½
Petersburg.....	—	—
Richmond and Fredericksburg.....	—	—
Richmond and Petersburg.....	—	—
Reading.....	55½	56½
Rochester and Syracuse.....	110	110
Rutland.....	45	43½
Stonington.....	52	44
South Carolina.....	—	—
Syracuse and Utica.....	123½	—
Sullivan.....	15a20	—
Taunton Branch.....	108	110
Troy and Greenbush.....	90	—
Tonawanda.....	—	—
Utica and Schenectady.....	127½	127½
Vermont and Canada.....	97	99½
Vermont Central.....	26½	26½
Vermont and Massachusetts.....	27½	27½
Virginia Central.....	—	—
Western.....	104½	103½
Wilmington and Raleigh.....	56	—
York and Cumberland (Pa.).....	19½	—

Verdict against a Railroad Company.

A Mr. Hood on the 15th of January last took passage at New Haven for Collinsville Conn., buying a ticket for that place at the railroad office. At Plainville the conductor gave him a check for the stage, which at that place connected with the cars, in exchange for his ticket. The stage was upset and Mr. Hood's leg was broken. He sued the railroad company for damages, but they contended that in the first place that they were not authorized to carry passengers in stages, and if they had been they had no control over this accident. The Court and Jury ruled differently, however, and gave a verdict for the plaintiff with \$3,400 damages and costs.

For the American Railroad Journal.
Erie Railroad.

"The Erie railroad has ceased to be an experiment," from being constantly repeated on all sides, has become a sort of a bye-word; and whether true or not, has had the effect to make the statement generally believed. This idea has made its stock and bonds nearly equivalent to the amount of money they represent, and the fullest confidence is felt of a still more favorable result.

The Erie road is deservedly the pet project of New York. We believe it to be essential to the maintenance of, and to secure to us beyond dispute, our western trade. We take pride in the vastness of the achievement. The world cannot boast of a similar work in all respects its equal. It is a magnificent monument of the energy and perseverance of those who for years have been entrusted with its management. From its vast cost, our citizens have a corresponding interest in its success. We are influenced alike by motives of pride, of interest and ambition, to believe all we hope from this great work.

The road is now so far completed that opinion can have no influence in its success. A person may speak freely in relation to it, without the risk of being charged with hostility, and without the fear of embarrassing its operations. Before it was opened, the extent of its success was a matter of conjecture, and an adverse public opinion would have been fatal to its progress. Success now no longer depends upon public estimation. It is bound up in the result, which can neither be rendered favorable nor unfavorable by anything that may be said or written in reference to it. We do not receive to its fullest extent the prevalent idea, and we believe we can much more effectually promote the good of the road, which we have as much at heart as any person can have, by giving our own views, than by echoing those of the public.

The Erie railroad (the fact of its success, we mean) has not ceased to be an experiment. This it is just *commencing* to solve. Its past history affords no very flattering augury for the future.—The estimates which have been made of its cost and revenues, are, as we shall show, entirely unreliable. In attempting to ascertain the probable amount of these items, the best guide we have is afforded by the experience of similar and older works. But even this is not infallible, and the degree of success must always depend upon the circumstances of each case.

The Erie road, in the first place, is not in a proper condition to institute the experiment which is to test its success. It is *opened*, not *completed*. Without vast addition to its present cost, the experiment *now* making may result in failure, when with an increased outlay it might prove completely successful. We will endeavor to show why the question of its success should not be taken as a foregone conclusion, and to point out the conditions necessary to a favorable result.

We may take for granted that a road, of the extent of the Erie, can never do a *profitable* business without a double track. On a line of road of 500 mile, no regularity can be given to trains without them; and the numerous accidents on roads doing a large business, prove the great danger of operating the road with only one.

The officers of the company admit the necessity of another track, and that they are prevented from laying it down by want of means alone. Every road doing a large business lays down a double track as soon as it can get the means to do so.—

The superior economy of two over one, even with the additional cost, is confirmed by general experience; and we affirm that for the experiment to succeed, the Erie road must have two tracks, for nearly all, if not for its whole line. Without such, the road cannot make money, no matter what its receipts are. The amount of receipts of a road furnish but little evidence of its net earnings. The Boston and Worcester road, for instance, earn about \$15,000 per mile per annum; yet this, at most, is only a seven per cent. stock. At the above rate, the gross receipts of the Erie would be over \$7,000,000, a sum double the most extravagant estimates of its revenues.

To lay down another track, and place it in complete order, with the additional equipment required, it would cost at least: \$5,000,000. This is at the rate of \$10,000 per mile, which we believe to be a small estimate. Most of the bridges on the route are, we understand, built for a single track. Such is also the case, we presume, with the culverts, road bed, etc.

We also estimate that the company need at least \$5,000,000 more, to place the road in a proper condition; to properly stock it, to prepare suitable depots and station houses, to carry out the necessary improvements at Dunkirk, Piermont, Jersey City, and to meet the innumerable items required to complete a road. The sums added to the last estimated cost of the road in the report of the directors, would make the entire cost something over \$30,000,000. But to this sum must be added the floating debt of the company, and the present increased cost over the estimates. We of course have no means of exactly ascertaining this amount, but we have no doubt of its being large. But admitting that \$10,000,000 additional will *complete* and stock the road, we have \$30,000,000 upon which to declare a dividend, instead of \$20,000,000; and allowing that the \$10,000,000 be raised by the bonds of the company, we have the interest on \$25,000,000 to take care of, before any dividend can be paid upon its stock.

Extravagant as these estimates may be, we believe that they will fall short of the sum required to place the road in a suitable condition for its highest efficiency.

We are aware that the above differ widely from the estimates which have at different times been made by the officers of the company. The first estimate of cost was about \$6,900,000 for the whole line. In 1844, the board of directors, of which Horatio Allen, Esq., a well known and highly distinguished engineer of this city, was president, estimated the cost at \$9,000,000, and Mr. Loder, the president of the company, in his report issued in 1848, estimated the cost at about \$12,000,000. He stated that it would be to the stockholders the cheapest road in the country, and its cost would not exceed one half the cost of the Western railroad of Massachusetts, which was \$50,000 per mile. In 1850, the cost was stated to be over \$20,000,000—being an increase of \$8,000,000 in a little over two years. We do not adduce these figures from any improper motive, but simply to show that the company may be just as wide of the mark at an estimate of \$20,000,000, as at 6, or 10, or \$12,000,000. They were honestly made for a good purpose, and with the best lights which could be had at the time. Further evidence showed the necessity of increased appropriations.

What will be the cost of the Erie railroad, and how can we ascertain it? The most satisfactory, and in fact the only mode, will be, to ascertain the

cost of similar works, and substitute the one for the other. Let us take the average cost of six of the leading Massachusetts roads, and see what figures they give us:

	Cost per mile.
Boston and Lowell	\$72,060 98
Boston and Maine	47,629 21
Boston and Providence	64,457 21
Boston and Worcester	71,171 63
Fitchburgh	53,468 11
Eastern	53,883 46
	6)362,670 60

Average per mile. \$60,377 00

The aggregate length of the main stems of these roads is 276 miles; of their branches 73½—making a total of 349½ miles. As a general rule, branches cost much less than trunk lines. The average cost of the main lines of the above roads is over \$70,000 to the mile. The main stem of the Erie is 469 miles long. Its branches, leaving out the Ramapo and Patterson, only 38. The comparison is therefore very much in favor of the Erie road. At \$70,000 per mile for the main stem, the latter would cost \$32,830,000; or with its branches, \$30,420,000, at \$60,000 per mile.

We estimate the ultimate cost of the Erie railroad fully up to that of the average of the roads we have instanced. A comparison of routes we believe would be against the former. It cannot, we think, claim to have been any more judiciously managed, or economically built, and we cannot see any reason why its cost should be less.

In estimating the future net income of this road, we must take into consideration its ultimate cost, which cannot be estimated at less than \$30,000,000. The experiment cannot be considered as satisfactorily solved, until we see what the road can do when fully completed.

We do not propose to institute a comparison of the route of this, with that of any road; our object being simply to determine the question of cost, and to leave that of the income upon such cost, a matter of general inference. We wish merely to show that the Erie road belongs to a *family*, possessing common lineaments, and similar characteristics. The Erie is no better nor worse than the brotherhood to which it belongs.

The inference drawn from these facts is much stronger evidence than any assertion of the cost on the part of directors.

Scarcely anything in the business line can surprise us more, than the wide discrepancy between the estimate and the cost of a railroad. We have compared the estimates and cost of the Erie. These were no further assunder than those of most of our roads. The Boston and Providence and Boston and Worcester, for instance, were estimated to cost about \$1,000,000 each. Their aggregate cost has reached to more than \$8,000,000. We refer to these, because they are the first to occur to us.—They are not alone in this respect, but stand for a whole class.

The Erie road must have more money, and that immediately. The first step of the directors should be to prepare the public for the call that must shortly be made upon it. Additional sums laid out in construction will not render its stock or bonds any less valuable. If the company were properly entitled to the loans it has already received, it can certainly bring equal claims, to a sufficient sum to perfect the work.

EXPERIENCE.

Railroads in Ohio.

We have received an elaborate *resume* of the railroads in this State, which we shall give in our next.

British Provinces.

Mr. John Young, of Montreal, the newly appointed Minister of Public Works in Canada, defines his position in reference to the projected railroad in the Provinces, as follows: we copy from his reply to interrogations addressed to him on the eve of the approaching election in that city.

I am in receipt of your letter of this date, and in reply, beg to say that I have much pleasure in acquiescing in your wish that I should express my views on the subject of the Halifax railway, and the canal to connect the waters of the St. Lawrence with those of Lake Champlain. As I have already stated, I have accepted office, in the hope that it may be in my power to assist in carrying out those great schemes of internal improvement, required to enable Canada properly to appreciate the advantages of her position in the great outlet from the western lakes. Of these questions, none are of the importance or magnitude of the grand trunk line of railway.

As the act passed at the last session of the Provincial Parliament has not yet been met with corresponding action in the Lower Provinces, it would be premature in me to offer any opinion as to the result of that measure—a measure projected and passed under a former administration, and for which I cannot be held responsible. I have, however, no hesitation in stating, that I am strongly in favor of the scheme of a railway from Halifax to Quebec and Montreal; but to make this work acceptable or desirable to the Canadian people, it is absolutely requisite, that simultaneously therewith the construction of a railway from Montreal to Hamilton should proceed. This last mentioned work I regard as of more pressing importance to Canada generally than even the other, especially as by the Portland road access will now be very shortly had to the Atlantic. Feeling, however, the importance of acting in harmony with the eastern portion of Canada, the Lower Provinces and the British government, in a work of this magnitude, it is my opinion that in connection with the railroad from Montreal westward, the line to St. Johns and Halifax should be completed by Canada to the borders of New Brunswick. So far, however, as I have examined the subject, I am not in favor of the line proposed by Major Robertson, by whose report the distance to be built in Canada from Quebec is 277 miles.

This survey was made with a view to military purposes; and I fear that the commercial advantages which may be gained by connecting Nova Scotia and New Brunswick with Canada, have not had due consideration.

I believe that a line for a railway from Quebec to the New Brunswick boundary, can be found by the way of River du Loup and the Grand Falls, and from thence intersecting the European and North American railway at or near St. John, which will not exceed 190 miles in length. Such a road would secure the trade of the St. John's river in Maine and New Brunswick, and could not fail to yield interest for the capital invested. To Montreal, the importance of the western line can scarcely be overrated; and should the efforts of the government to secure the entire railroad from the extreme west to the ocean in British territory be frustrated, I am prepared to assist their anxious desire to promote the construction of that part of the line west of Quebec by our own provincial resources and individual efforts. It must, however, be borne in mind, that our provincial securities will not bring over 6 per cent, while our municipal and other bonds may sell only for 8 per cent. I cannot, therefore shut my eyes to the advantage of building 600 miles of railway (by taking money at 3½ per cent. interest) instead of constructing 300 miles, at the same annual cost of interest to the Provinces.

As regards the canal to connect Lake Champlain with the St. Lawrence, I shall be prepared to consider impartially the reasons which may be adduced in favor of the several routes suggested. Only one route (from Lake St. Louis) has yet been surveyed, and until comparative surveys are made of other routes, and the merits of each duly weighed, I shall defer expressing a definite opinion as to the point of departure from the St. Lawrence. I trust, however, that the citizens of Montreal, should they

honor me with their confidence, will rely on my anxious desire to avoid any course which may be prejudicial to their interests, or to those of the Province.

I have the honor to be, gentlemen,

Your obedient servant,

JOHN YOUNG.

The above contains the first streak of light we have yet seen coming from the friends of the Halifax and Quebec railroad. Mr. Young proposes to follow a *commercial*, instead of a *military* line, and save by doing so 100 miles in distance; and by following the valley of the St. John, to run through a country that can do something towards the support of a railroad. By his plan, the road from St. John to Halifax would become the trunk line for both the Quebec and the Maine line. Should it be carried out, an immense saving in cost would be effected, and a new face would be put upon the whole project. We are glad to chronicle Mr. Young's appointment. It places a liberal, intelligent and energetic man at the head of the most important department in the Canadian government. His influence is certain to be felt in promoting all useful schemes of internal improvement, and he may yet save the Halifax and Quebec railroad from destruction, by causing the proper route to be selected, though we believe he was somewhat offended with us, for advocating precisely the same ground he now occupies.

Railroads in the Lower Provinces.

The Legislature of Nova Scotia is now in session. The great topic before that body is the Halifax and Quebec railroad. In speaking of the proceedings had upon this subject, the New Brunswicker says:

On Wednesday, the Provincial Secretary then, by command, presented to the Assembly the correspondence and documents relative to the proposed line of railway in these Provinces, and subsequently introduced two bills, the one entitled "An act to make provision for the construction of railways in British North America," and the other "An act for raising by way of a loan a sum not exceeding £1,000,000 for the construction of railways in British America." The tone of the House is moderate and satisfactory, and these railway bills will be triumphantly carried.

A memorandum of the terms proposed by the governments of Canada and Nova Scotia, at the Toronto Conference, embracing three propositions, the acceptance of either of which, by New Brunswick, would bind the other Provinces, was presented at the same time. These propositions are as follows:

First. That each Province should be responsible for the cost of that portion of the road passing through its own territory.

Second. That New Brunswick should make a distinct and separate agreement for the construction of its portion of the line, with private contractors, who might possibly be induced to undertake the work on liberal terms.

Third. That the line between Halifax and Quebec should be undertaken on the joint account of the three Provinces; and that the crown lands lying within five miles, on each side of the line, should be conceded by each Province, for the benefit of the road; and that until the payment of the cost of construction, and interest, the receipts should be common property, after which, each Province to own that portion of the road which passes over its own territory.

The following provisions are included:

Canada having provided by legislation for one-third of the great trunk line from Halifax to Quebec, and for an extension of that line from Quebec to Hamilton, (whence to Windsor, opposite Detroit, a section of 200 miles is already under contract), it is assumed that New Brunswick will provide for one-third of the trunk line to Quebec, and for the whole of the Portland line lying within her territory. It is also assumed that the British gov-

ernment will advance all the money which the three Provinces require, to make both lines—that is, from Halifax to Montreal—and from a convenient intersection of the trunk line to the State of Maine—at an interest of three and a half per cent. It is further assumed, that while the tolls on the roads, the lands to be entrusted to the joint commission, and the public revenues of the Province, will be pledged to the British government to repay the interest and principal of the money borrowed—the last will not be required, except the tolls and lands yield less than the annual interest on the sum for which each province is severally responsible.

Since the above was in type, we learn by telegraph that the Provincial Assembly have, by a vote of 39 to 14, sanctioned the above scheme, making the project binding on Nova Scotia. We apprehend there can now be no doubt whatever, that the action of New Brunswick will be equally favorable. So we may consider the construction of the Halifax and Quebec railroad, with the Portland branch, as beyond question.

Coupled, we presume, with the above scheme, will be the proposed road from Montreal to Quebec, and from Montreal to Detroit. The Canadian government already supply a part of the cost of these roads, and will probably assume them. The whole line from Halifax to Detroit will be about 1,400 miles, or nearly 1,600 with the Portland branch—exceeding the distance required to build a road from the western line of Missouri to the Pacific—a project which is regarded by us as too vast to be at present undertaken.

What a stupendous enterprise this of our neighboring provinces! Sixteen hundred miles of railroad at a dash! If accomplished never let us say that they are behind the times. If successful, they will be a great ways ahead of the age, for sober experience shakes her head and looks on with distrust.

If the above line should be built, it would secure all that the provinces need for a long time in the shape of railroads. The line will traverse the centre of the narrow belt of country which embraces nearly all the arable land in the Canadas. It would also supply all the railroad accommodations needed by New Brunswick and Nova Scotia.

The road can be built within three years after all preliminaries are arranged, if not in a shorter period. Nearly every mile of it may be commenced at the same time, with equal economy. The whole line will run in the immediate vicinity of navigable water, from which materials may be distributed with the greatest convenience. Should the work be pushed with vigor the immense sums expended must give a decided impulse to business in the provinces.

Indiana.

A company has been formed for the purpose of constructing a railroad from Peru in this State, (the terminus of the Indianapolis and Peru road,) to Goshen in Elkhart county, to connect with the northern Indiana railroad. The company have organized under the name of the Kosciusko, Elkhart and Miami railroad company, and have elected the following gentlemen Directors:—David Long, William Felkner, David Ripsey, M. Beck, D. S. Pershing, J. S. Frazer, Alvord Wilcox, I. H. Jennings, and Christian Sarber and the Board of Directors have elected Alvord Wilcox, President. The company seem determined to make every exertion to push the work on to a speedy completion. We view the completion of this link between the north and south as of vast importance not only to the particular section through which it passes, but to our whole State; persons going from the north on this road will have choice of some six or seven roads at Indianapolis, and these six or seven roads will each furnish some business, it may well be supposed, for this northern road—*Laporte Whig*.

Pennsylvania.

Sunbury and Erie Railroad.—We learn from good authority that this project is making very rapid progress, and that there is every prospect of the immediate commencement of the work of construction under auspices that promise certain success. From Philadelphia, as well as from New York, continuous lines of railroad are in progress to Williamsport, on the Susquehanna, 223 miles from the former, and 187 from the latter. From Williamsport to Erie, the distance is 240 miles, over, it is said, a route remarkably favorable for a railroad. It is estimated by competent engineers that \$10,000 per mile will grade and bridge the whole line. A large sum is now raised on the route, and it is stated that Philadelphia will immediately take hold of the work, as soon as the Central railroad shall be completed. That city feels the deepest interest in the Sunbury and Erie railroad, as it will place her in connection with the best harbor on the south shore of Lake Erie, by a shorter line than can be found to New York. The latter would, we think, derive equal advantages from the road, as the distance against her is too small not to be counterbalanced by her commercial superiority.

Important Project.

The Chicago Democrat brings forward an important project for the consideration of the people and of Congress; no less than the extension of the Mobile and Chicago railroad to Lake Superior. It will be recollected that Congress has granted to the States through which a railroad from Chicago to Mobile will pass, every alternate section of public lands along the line, to aid in the work of construction. Under this grant, the road will be built through Illinois, and ultimately to Mobile. A railroad is in progress from Chicago up the Rock River Valley to Fond du Lac, and will be built.—From Fond du Lac to Lake Superior is about 250 miles, most of the way through an unsettled country. The Democrat suggests that Congress should denote lands enough to build the road, opening an accessible way at all seasons of the year to the rich mineral regions, and doubling the value of the balance of the public domain, by the facilities of business and increased population.

The grant of lands for the road is urged upon the attention of the Senators and Representatives of Illinois and the west, and the Democrat expresses the opinion that they can carry the measure through.

Finances of Tennessee.

The Comptroller of Tennessee has recently made a report of the finances of the State, which is in substance as follows:

There has been paid into the State treasury during the two years prior to the first Monday in Oct., 1851, from all sources, as well as upon warrants issued within that time.....\$1,004,004 94
And there has been paid out of the treasury within that time, for all purposes 933,431 25

Excess of receipts over disbursements for the two years.....	70,573 69
Balance in the treasury on the first Monday of October, 1849.....	152,198 11

Leaving in the treasury on the first Monday of October, 1851..... \$222,771 80

The receipts into the State treasury have increased within the last two years from \$790,695 53, to \$1,004,004 94. The disbursements during the same time have increased from \$862,426 66 to the sum of \$933,431 25. Receipts over disbursements \$70,573 69.

For the American Railroad Journal.

Mr. Whitney's Railroad Project.

H. V. Poor, Esq.

The remarks in regard to the above gigantic project, which appeared in the Journal of November 15th, I consider hardly does justice to Mr. Whitney. A profile of the route for most of the contemplated line may be seen in documents published by order of the United States government, which present no formidable obstacles that need be solved by eminent engineers. The only thing requisite being the necessary means whereby the work can be successfully carried through to the Columbia river, or the Pacific ocean at Puget's Sound.

Mr. Whitney fully explained the preference of a northern route, starting from the Mississippi river, opposite Prairie du Chien, to a more southern location, there being less rain or snow during the winter months, and an infinitely better climate.

It is a well established fact, that man's physical endurance for labor, and aptitude for toil, is greater north than south of the latitude of Washington, and that as you advance toward the Pacific in a high latitude, the climate is milder than on the Atlantic slope; altogether making Mr. Whitney's proposed route the most feasible of any within the confines of the United States.

There is another argument in favor of starting said railroad line from a point on Lake Michigan. Take Chicago, for instance, and you will find that it is just about the same distance from Boston as from New Orleans, and somewhat less distance from New York, Philadelphia, Baltimore, Richmond, Charleston and Savannah, to Chicago, thus putting nearly all the Atlantic seaboard on an equal footing as to distance across the continent of America.

J. D.

Northern and Southern Routes of Travel.

In going south from New York, the whole stream of travel is thrown upon one line of road. The consequence is, high fare and poor accommodations. On the east, with the roads now opened and in progress, the traveller may take his choice of seven different routes, using the New York and New Haven as a part of their line, for two or three of them. With such a choice of route, there can of course exist no monopoly, and a vigorous competition secures low fare, the highest speed, and the best accommodations. So in going north. In a few days we shall have three distinct lines to Albany—all parallel and near each other. A passenger may go from Portland to New York easily in one day, and spend from 10 to 3 o'clock, the business portion of the day, in Boston on his way, at a charge of \$7; or \$6, by taking the steamboat route. The distance is about the same from New York to Richmond, Va. The fare alone between the last named cities is \$13 40, just about double the charge on the northern route.

One would suppose that the route from New York to Richmond, Va., would be the most profitable in the United States. As a whole, such is not the case. The numerous routes east, as a general rule, pay much higher dividends, notwithstanding their higher cost, and numerous competing lines.

Lakeshore Railroads.

We learn from the Michigan city News that the cars are now running from that place 25 miles west on the Michigan Southern railroad, and on the Michigan Central 21 miles. The News also says that the Central road will be complete to the Illinois line by the first of December. It is already graded to within 3 miles of it.

Iowa.

A State railroad convention was held at Iowa City, Iowa, on the 15th ult., to take measures to secure a grant of land from Congress to aid in building a railroad from the Mississippi to Council Bluffs, and from Dubuque to Keokuk. The convention was organized by the appointment of Ex Governor Lucas as President; Arthur Bridgeman, of Lee, Wm. H. Merritt, of Dubuque, David Rider, of Jefferson, A. E. D. Boquet, of Marion, as Vice Presidents; and Wm. P. Clarke, and Thos. Tostevin, Secretaries.

The convention was addressed by a number of gentleman, and a series of resolutions adopted, declaratory of its object. The resolutions claim that the proper line for a railroad to the Pacific should follow the general latitude of the south shore of Lake Michigan, crossing the Missouri at Council Bluff, and the Mississippi at Rock Island. That the value given to the public lands of Iowa by the construction of the roads will be vastly greater than the present value of the grant asked for—that government as tenant in common, should aid in the construction of the lines named. The resolutions state that the State of Iowa is entitled to her share of the surplus revenue distributed in 1836, and that the only way by which she can now obtain it, is by a grant of lands—that other States have received very large donations for internal improvements, upon precisely the same principle which the above grant is asked.

A memorial to Congress was also adopted by the convention, setting forth that the routes of the roads for which aid is asked, have been surveyed, and found to be favorable—that said railways are extremely important to the welfare of the inhabitants, and indispensable to the proper development of the immense natural resources of the State; and that one of said railways will extend from Dubuque, the head of our mineral region, to Keokuk, at the head of uninterrupted steam navigation of the Mississippi river, and the other from Davenport, at the most eligible, if not the only practicable point for bridging said river, and at the western terminus of the Chicago and Rock Island railroad, via Fort Des Moines, to the Council Bluffs—thereby forming an important section, upon a direct line, of the contemplated railway from New York and Boston to the Pacific Ocean.

The memorial further represents that the pecuniary means of Iowa are inadequate to the construction of the above roads—that they cannot be constructed for a long time without aid—that they would be of incalculable advantage to Iowa—that they would greatly benefit the general government by the increased value they would give to the public lands, and that they would promote the interests of the people of all the States.

A committee of five persons were appointed to proceed to Washington to urge upon Congress the passage of the bill, consisting of Hon. James Grant, of Scott, Gen. V. P. Van Antwerp, of Lee, Hannibal Emerson, Esq., of Dubuque, George S. Hampton, Esq., of Johnson, and Barlow Granger, Esq., of Polk.

We hope the effects to be made will prove successful. Congress has established a precedent by which she ought to be bound. Iowa presents a much stronger claim than Illinois, as a road from Rock Island to Council Bluffs, would be a much more national affair than the Cairo and Chicago railroad. The latter is purely a commercial enterprise. If Iowa does not succeed it will be

cause similar means will not be resorted to that secured the Illinois grant.

Missouri will come into the field with similar petitions, is prepared to make out a strong case. Her two roads are exceedingly important projects, not only to that State but to the whole country.

We believe that the east are equally interested in the progress of western railroads as the west itself, though the benefit is not so apparent. That section of the country supplies us with our food, and a large part of what forms the basis of our foreign commerce, and is the great market for eastern manufactures. Every mile of railroad built and every additional ton of produce sent to market brings a direct and immediate profit to our commercial and manufacturing classes.

New Albany and Salem Railroad.

We learn from the Detroit Free Press that the New Albany and Salem road between Lafayette and Michigan City, is already under contract, and that the grading has made considerable progress. From Michigan City to the State-line of Illinois, the road is nearly complete. From New Albany northward to Bedford, a distance of about fifty miles, the road is also very nearly finished, and cars have been running there during a great part of the past season.

The grading and bridging as far north as Gosport is in rapid progress. Arrangements have also been effected, by which the Crawfordsville road becomes united and consolidated with the New Albany and Salem road, and thus, as the entire route north of Lafayette is under contract, and the work on it now in hand, there remains only the short distance between Gosport and Crawfordsville, upon which work is not now going forward. The prospect is now fair, that within two years, the entire line will be finished between the Ohio river and the lakes. The completion of this enterprise will be an important era in the history of the great State of Indiana. It will be the longest road in the west except the Illinois Central, and will develop boundless resources of one of the most extensive and fertile sections of the State.

Terre Haute and St. Louis Railroad.

We understand that matters are in train, and nearly completed, which will secure the completion of the Terre Haute and St. Louis railroad by July, '53, and perhaps sooner. We get this information from a reliable source, and it can be depended on. —Locomotive.

Sault Ste. Marie Canal.

The subject of this important and almost indispensable work, is vigorously agitated by our enterprising fellow citizens of the Upper Peninsula. On the evening of the 8th inst., a public meeting was held at the Van Anden House, at the Sault, at which Judge Ashmun presided, Messrs. Sherman and Coburn Secretaries, and Messrs. Ashmun, and Knox, of Philadelphia, Thatcher, of Boston; Messrs. Whittlesey, Cash, and Hanna, of Ontonagon, Mr. Faren, of Jackson, Judge Pratt, of Detroit, and Mr. Sinclair, of Cleveland, were the Committee on Resolutions. Judges Pratt and Ashmun, and Messrs. Thatcher and Coburn, of Indianapolis, Stevens, of Ontonagon, Brooks, of Eagle Harbor, and Sherman, being called upon, addressed the meeting.

A petition and memorial were got up for presentation to Congress. The benefit of such a measure is incalculable. The immense water power there, for mills, factories, machine shops, and for making the finer mineral paints. Property generally on the whole lake will be doubled the moment the canal is complete.

We trust that Congress will give heed, this winter, to the again repeated demands of our Senators and Representatives for an appropriation to carry

forward a work of such moment, not only to Michigan, but to the entire Union, as this Ship canal. —Detroit Free Press.

Best Cast Steel Axles & Tires, (A NEW ARTICLE.)

For Railroad Carriages and Locomotives.

THE quality of this Steel is sufficiently attested in the announcement that it has carried off the first prizes awarded at the World's competition of 1851, in London. The axles are in general use on the Continent, and are now offered in competition with any other that can be produced; and to be tested in any way that may be desired by the Engineers of the United States, either by impact or by torsion. This Steel is manufactured by Fried Krupp, Esq., of Essen, in Renish Prussia, represented in the United States by

THOS. PROSSER & SON,
28 Platt st., New York.

November 1.

To Railroad and Canal Companies, Contractors, etc.

THE undersigned wishes to direct the attention of Chief Engineers and Contractors to the facilities he possesses for supplying them with workmen, laborers, etc. of any description, and also to remind them that he forwards such men to whatever destination they may be required.

Companies or Contractors desirous of receiving peaceable and industrious men, will be promptly supplied at the shortest possible notice.

C. B. RICHARDS,
No. 35 Greenwich Street, New York.
REFERENCES:—Chas. H. Webb, Esq., Supt. of the St. George's and British Protective Society, New York; Messrs. Harris and Leech, Philadelphia, Wm. P. Malburn, Esq., Albany.

Railroad Iron.

THE undersigned offer for sale 1000 tons Railroad Iron, (about 56 lbs. to the yard,) now at Brooklyn.

CHOUTEAU, MERLE & SANFORD,
Oct. 1, 1851. 51 New st.

M. B. Hewson, Civil Engineer,
(Open to a New Engagement.)
Memphis, Tenn.

To Stone Masons.

THE NEW ALBANY AND SALEM RAILROAD Company have about 10,000 c. yards of Abutment Masonry to let at private contract, to be completed by the 1st of July, 1852.

To contractors who can produce testimonials of character for ability as STONE MASONS, fair, remunerating prices will be given.

Early applicants, by securing the work now offered, will gain advantages over competitors for the erection of an additional 15,000 yards, to be let out early next spring, in bridging the streams between Bedford and Michigan City, via Bloomington, Gosport, Crawfordsville and Lafayette, (the most productive and healthy region in Indiana,) by the knowledge they will have acquired of the resources of the country.

Application may be made in person, or by letter addressed to the undersigned, at New Albany, Indiana.

S. B. WILSON, Engineer.
Engineer's Office, New Albany, }
Sept. 29th, 1851. }

Engine Waste.

CLEAN WASTE for Locomotive and Steamboat Engines, in lots as wanted; also, superior Steam Packing. Orders, with explicit directions for forwarding, should be addressed to

J. MORTIMER HALL,
36 South st., New York.

November 1. 3m

Railroad Iron.

2000 TONS of an approved pattern 59 to 60 lbs. per lineal yard, now manufactured in England, and ready for immediate shipment, from thence.

Also, 2,500 tons of different patterns in port and expected to arrive within sixty days. For sale by DAVIS, BROOKS & Co.

23 Beaver Street, New York.

CONTRACTS made for Railroad Iron at a specific price delivered in England, or at port in the United States.

To Railroad Companies.

H. & F. BLANDY, Proprietors
LOCOMOTIVE ENGINE WORKS,
ZANESVILLE, OHIO.

RESPECTFULLY give notice to Railroad Companies that they are now prepared to furnish Engines of the most approved construction and finish, which, for capacity, speed and durability, are not excelled in this country.

Also, all other Railroad machinery, of both wrought and cast iron, pertaining to the road, stations or machine shops.

Terms as favorable as any other builders in the United States.

The facilities for transportation from Zanesville are as good as from any other point in the Union, having steamboat navigation to the Ohio river, and Canal boat and Railroad connection with the Ohio river and Lakes.

One of their Engines, the "MUSKINGUM," on the Central Ohio Railroad, may be referred to, or others, at their works. The attention of those interested is invited, and orders solicited.

Oct. 30th, 1851.

To Contractors.

OFFICE OF THE E. AND ILL. R. R. CO., }
Evansville, Oct. 23d, 1851. }

SEALED PROPOSALS will be received at this office from the 13th to the 23d day of December next, for the grubbing, grading and bridging of that portion of the Evansville and Illinois railroad, lying between Princeton and Vincennes, a distance of 24 miles.

This work includes two bridges; one across White River, about 600 feet, the other across Patoka, about 200 feet.

Contractors will state what proportion of the Stock of the Company will be taken in payment.

Plans, profiles and specifications, will be exhibited, and all requisite information given at the Office of the company in Evansville, on and after the 13th day of December next. By order of the Board of Directors.

SAM'L HALL,
President.

RAILROAD SPRINGS.

Fuller's India-rubber Springs.

THESE are now made in our own Factory, of the best materials. Each spring is guaranteed to perform the required work. Purchasers guaranteed against adverse claims.

Car Builders will save great expense by calling at the office of the Company.

23 Courtlandt St., New York.

To Railroad Companies.

THE undersigned has discovered and patented an imperishable, cheap, and sufficiently elastic substance, to be introduced between the sill and rail, so that the stone sill can be used in place of the wooden sill: entirely overcoming that rigidity where the rail is laid directly on stone. Address

J. B. GRAY, Philadelphia.

July 10, 1851.

4m

Railroad Iron.

THE undersigned are prepared to enter into contracts now at specific prices, to deliver Railroad Iron during the coming Winter and Spring, free on board at the shipping ports in Wales, or at ports in the United States.

CHOUTEAU, MERLE & SANFORD,
Sept. 30, 1851. No. 51 New st.

To Contractors.

OFFICE WILMINGTON & MANCHESTER R. R. CO., }
Marion C. H., S. C., October 18, 1851. }

SEALED PROPOSALS will be received until the 15th of December next, for the Piers of a Bridge across the Great Pee Dee River. The job comprises four piers, one a very heavy pier for a draw, and the sinking of cast iron hollow piles by "Dr. Pott's Pneumatic Process," for forming foundations. The plans and specifications of the piers will be exhibited by the Secretary of the Company at Marion Court House, and by the Resident Engineer, L. J. Fleming, Esq., at Wilmington, North Carolina.

WALTER GWYNN,

Chief Engineer Wilm. and Man. R.R.

November 1.

Richmond, Va.

Bridges & Brother,
DEALERS IN
RAILROAD AND CAR FINDINGS,
64 Courtlandt street, New York.

Having established a general Depot for the sale of articles used in the construction of Railroads, Locomotive Engines and Railroad Cars, we would invite your attention to our establishment. We have already in store a good assortment of CAR FINDINGS and other articles used in the trade, and feel justified in saying, that should you desire anything in our line, we can supply on terms perfectly satisfactory, and in the event of your desiring to order, you may feel assured that your terms will be as good as though you were here to make your own purchases.

Among our goods may be found Railroad Car Wheels, Axles, Jaws and Boxes, Nuts and Washers, Bolts, Brass Seat Hooks and Rivets, Window and Blind Springs, Lifters and Catchers, Door Locks, Knobs and Butts, Ventilators and Rings, Car Lamps, Coach and Wood Screws, Jack and Bed Screws and Babbitt's Metal; also Plushes, Damask, Enameled Head Linings, Cotton Duck for Top Covering in width sufficient without seams, Curled Hair and all other articles appertaining to cars.

Also a new and valuable CAR DOOR LOCK, well adapted to the Sliding Door. This is decidedly the best yet introduced.

LOCOMOTIVE ENGINE LANTERNS, the best article made in the country. Whistles, Gauge and Oil Cocks, Hemp Packing, American, Russian and Italian. We are also agents for Lightner's Patent Journal Box for Car Axles, that invaluable invention, for the economical use and preservation of Car Journals.

Coach VARNISH and Japan of the best quality. We would also offer our services for the purchase as well as for the sale of goods on commission.—Both members of our firm have had the experience of many years in the manufacture of Railroad Cars, and our Senior was a member of the well known house of DAVENPORT & BRIDGES, Car Manufacturers, Cambridgeport, Mass. With our knowledge of matters pertaining to Railroads, we feel quite confident in giving satisfaction to both buyer and seller, and hope that through assiduity and attention to any business entrusted to our care we shall merit a continuance of confidence and patronage.

BRIDGES & BROTHER.

July 22, 1851.

Lightner's Patent Axle Boxes.

The undersigned are Agents for, and offer for sale, *Lightner's Patent Axle Boxes*, for Railroad Cars and Tenders, which have, by thorough experience, been demonstrated to be one of the most valuable improvements ever introduced in Locomotion. The saving effected in oil alone, will in a few months pay the first cost of these boxes, independent of other advantages. They are now in use upon the following, among other roads, viz:

Boston and Worcester, Boston and Providence, Boston and Fitchburg, Nashua and Lowell, Providence and Worcester, Northern, N.H., Cheshire, Manchester and Lawrence, Concord, N.H., Concord and Claremont, Ogdensburg, (Northern, N.Y.), Stonington, New London Willimantic and Palmer, New Jersey Central, New Hampshire Central, Worcester and Nashua, Fitchburg and Worcester, Connecticut and Passumpsic, Lowell and Lawrence, Salem and Lowell, Wilton Branch, Newburyport.

Below will be found the certificates of a number of gentlemen, whose opinions will be good authority in every part of the country.

Office Boston and Prov. R. R., }
Boston, Dec. 28, 1849. }

Mr. JOHN LIGHTNER,

Sir,—It affords me pleasure to say, that after two years' trial of your boxes, I am fully and entirely satisfied of their superiority over any other pattern we have used. This superiority consists in economy of oil and freedom from "heating." I have tried every pattern of box in use, of any note, and do not hesitate to say, that you have devised one which in every respect combines greater advantages than any other within my knowledge; these advantages are so manifest, that I am fitting up all

our cars with your boxes, as fast as practicable.

Annexed, is a statement of an experiment with your boxes, the result of which may be of use to your interests.

Ten passenger cars, running 72 wheels, fitted up with Lightner's boxes used 41½ pints of Patent Oil, at 50 cts. per gallon, ran 43,099 miles, equal to 5-18 pints per wheel for 43,099 miles. Speed, 30 to 40 miles per hour.

Very respectfully yours,

W. RAYMOND LEE, Supt.

I have examined the above statement of Mr. Lee, and fully concur with him in his opinion of the superiority of Lightner's box.

GEORGE S. GRIGGS,
Supt. Machine Shop B. & P. R. R.

Boston, July 26, 1849.

This is to certify that J. Lightner's axle boxes for railroad cars and locomotive tenders, have been in use on the Boston and Worcester railroad one year, and I unhesitatingly pronounce it, in my opinion, the best and most economical one in use, requiring less oil, of easy application, not susceptible of derangement, as in most kinds in use. When requiring repairs or renewal, the same may be done in one-fourth of the time usually occupied for that purpose. The box requires oiling not oftener than once a month—is kept quite free from dust, and consequently wears much longer than those generally in use.

D. N. PICKERING,
Supt. Motive Power, B. & W. R. R.

Office of Boston Locomotive Works, }
December 12th, 1849. }

The Boston Locomotive Company have been using J. Lightner's patent axle boxes under the tenders of their engines for several months, and find them more highly spoken of by the railroad companies that have used them in regard to economy in the use of oil, their durability and their ease of adjustment, than any other boxes which they have used. We therefore do not hesitate to recommend them to all railroad companies.

DANIEL F. CHILD,
Treas. Boston Locomotive Works.

Taunton Locomotive Works, }
Taunton, July 7, 1849. }

Mr. H. F. ALEXANDER,

Dear Sir,—Your favor of yesterday came to hand in which you ask what success we have met with, in using Mr. Lightner's patent box for cars, engines, &c.

We have put it in use on the Boston and Providence railroad, New Bedford and Taunton Branch railroad, Central railroad, N. J., Norfolk County, Rutland and Burlington, and as yet we have not had one complaint from them; and from what we have used of it, and witnessed, we do not hesitate to say that it is superior to anything in use for that purpose. It is simple in its construction, and easy of access, and the reservoir is held close to the shaft, and the oil and journal is perfectly secure from dust; they will run from four to six weeks without replenishing the oil. The brass in the box is changed very much easier than by any other plan that we have seen.

Very resp. yours,

W. W. FAIRBANKS, Agent.

Office Providence & Worcester R. R. Co., }
Providence, Dec. 17th, 1850. }

H. F. ALEXANDER, Esq.,

Sir,—The "Lightner patent boxes" for cars and locomotives have been in use under a portion of the passenger cars and engines of this company for upwards of two years, and have given very great satisfaction.

Though combining many excellent qualities, their great superiority consists in the economy of oil.

The result of experiments upon this road shows the consumption of oil by the use of this box, to be not more than one sixth part the quantity consumed by the use of the common box.

With the common box, eight passenger cars, 64 wheels, running 90 miles per day, consumed in 12 months 520 gallons of oil, being an average of 8½ gallon per wheel per annum.

With the Lightner box the same cars running the same number of miles per day, during the same space of time consumed 73½ gallons of oil, being an average of 1½ gallon per wheel per annum.

So manifest are its advantages over any other box used by this company, it is intended to place it under all our cars as soon as practicable.

Besides the saving of oil, as they afford complete security from dust, we think them more durable than any other box in use.

Another advantage resulting from the use of this box is, cars run more easier than with the common box. The saving in fuel which it would effect, would of itself, we think be a sufficient inducement to use this box in preference to any other known to us.

Very respectfully,

ISAAC H. SOUTHWICK, Supt.
JOHN B. WINSLOW,
Supt. Machine Shop, P. & W. R. R.

Cambridgeport, April 5th, 1851.

H. F. ALEXANDER, Esq.

Sir,—This may certify that I have been engaged in the manufacture of railway cars since 1834, and have built for the different railroad companies cars of all descriptions to the amount of three millions of dollars, and have used on the above cars all kinds of journal boxes, and find that none give better satisfaction than the "Lightner patent box," both on account of the saving of oil and the arrangement for taking out and re-placing the composition by means of the sliding key, and other conveniences which no other box possesses.

Yours respectfully,

CHARLES DAVENPORT.

Worcester, March 17th, 1851.

H. F. ALEXANDER, Esq.

Dear Sir,—This is to certify that I have been for some years past engaged in building cars, and that I have tried most, if not all of the patent boxes, and have found Lightner's patent superior to all others as far as the saving of oil is concerned, also the ease with which they are fitted and exchanged in case they get out of order.

For the last three years, I have put them under all of the cars I have built, and in every instance they have given the most entire satisfaction.

Yours truly,

OSGOOD BRADLEY.

Office Union Works, So. Boston, }
May 23d, 1851. }

This certifies that I have applied Mr. J. Lightner's patent axle boxes to my locomotives and tenders for the past two years. I consider them superior to all others,—economical in their use, and possessing many important advantages not found in any other boxes.

SETH WILMARTH.

Office 15, R. R. Exchange, Boston, }
June 1, 1851. }

This is to certify, that we have known the success of Lightner's patent journal boxes upon various roads in New England the past three years, and have been led to examine their peculiar construction.—We are well satisfied of their merits, and have adopted them upon our small gravel cars, and take pleasure, as we ever have done, in recommending their use upon all roads where we are employed in the construction.

GILMORE & CARPENTER,
Contractors.

Amoskeag Manufacturing Co. Machine Shop, }
Manchester, May 31, 1851. }

H. F. ALEXANDER, Esq.

Dear Sir,—We are using the Lightner box on all the engines and tenders we build, and we are satisfied that it is the best box in use, and recommend the same to all those who purchase engines at our works.

Yours respectfully,

O. W. BAYLEY, Agt.

This is to certify that the Fitchburg railroad company having become satisfied of the superiority of J. Lightner's patent Axle Boxes for Railway Cars and Locomotive Tenders adopted the same

and are bringing them into general use upon their road.

One year's experience with the above improvement, has fully convinced me that there has never been anything offered to the public for that purpose which possess such intrinsic value; in fact, this is an improvement which seems to overcome all the difficulties found in all the various kinds now in use. It possesses very many advantages over all others: Some of which are [first] the first cost is much less than that of most boxes in use. [Secondly] 75 per cent is saved in oil; one gill applied to each Journal once a month, or one quart to an eight wheel car, is all these boxes require per month [Thirdly] no dust can gain access to the Journal, which is constantly lubricated with clean oil; hence the saving in repairs of Journals and composition bearings, is a matter of importance. [Fourthly] its construction is truly simple—not complicated, having nothing liable to become loose by constant and severe service. [Fifthly] for convenience there is nothing which approaches this improvement.—The composition bearings may be removed from the Journals of an eight wheel car, by one man, and returned, or duplicates, in twenty minutes, while under the car: the same would require two men, at least half a day with other boxes in use.—The trucks and wheels using these boxes, are free from oil and dirt, usually seen upon all railroad cars, at great expense to the corporation.

NATH'L JACKSON.

Supt. Car Building and Repairs, F.R.R. Co.

Boston, March 9, 1849.

I hereby certify, that I have examined a box for Car Journals, invented by Mr. Lightner of Roxbury, Mass, and I have thought so well of it that I have adopted it on our railroad, I have known of its success on other roads.

S. M. FELTON,

Supt. F. R. R.

Office of the Central R. R., N. J., }
Elizabethtown, May 1849. }

H. F. ALEXANDER, Esq.,

Dear Sir:—Your favor, [wishing to be informed how we liked Lightner's patent axle boxes for R.R. Journals,] has been duly received; in answer we would say, we have used the boxes on Locomotive tenders one year, more or less, and on our cars some six months. I consider them the best boxes in every respect, I have ever used, or even seen used on any other roads—for safety, durability and the economy pertaining to all the details connected with the boxes and Journals of R. R. Car wheels; and we shall adopt them upon this road.

Yours Respectfully,

JOHN O. STEARNS.

Supt. Central Railroad Co., N. J.

Manchester, N. H., Nov. }
1st, 1850. }

H. F. Alexander, Sir,

I have used "Lightner's Boxes" under all the Cars of the Manchester and Lawrence railroad, and feel no hesitation in saying that I think them to be the best boxes now in use.

Yours, &c.,

THEODORE ATKINSON, Agent.

Cheshire R. R. Office, Keene, }
March 5th, 1851. }

Mr. H. F. Alexander,

Sir,—Lightner's Patent Boxes have been used on the Cheshire R. R. about a year, and have given the highest degree of satisfaction.

All the Passenger Cars now in use, and a considerable number of Merchandise Cars are furnished with them, and they will take the place of the Common Boxes on all the cars as fast as circumstances will permit.

Very Resp't.

L. TILTON,

Supt. Cheshire R. R.

Boston and Worcester Railroad, }
Boston, April 1st, 1851. }

H. F. Alexander, Esq.,

Dear Sir,—Lightner's Patent oil saving box for railroad cars, has been adopted by this corporation; we are taking out the common and substituting the

Lightner's at the rate of fifty boxes per month; it will soon take the place of all others, as it is decidedly preferable to any heretofore used by this corporation.

G. TWITCHELL, Supt.

Statement of amount of oil used on 32 8-wheel freight cars, on the Boston and Providence Railroad (with Lightner's Boxes) from March 10, 1849, to February 27, 1851, and upon 12 8-wheeled passenger cars from September 8, 1849, to February 27, 1851.

FREIGHT CARS.			
Amount Oil.	No. months.	Amount Oil.	No. months.
1.—21 pts.	10	17.—23½ pts.	14
2.—19 "	6	18.—23½ "	11
3.—25 "	13	19.—36 "	21
4.—18 "	7	20.—22 "	10
5.—22 "	12	21.—38½ "	24
6.—24 "	13	22.—29 "	23
7.—20 "	11	23.—35½ "	23
8.—21 "	11	24.—37½ "	23
9.—23½ "	10	25.—51 "	23
10.—21 "	9	26.—31½ "	24
11.—20 "	9	27.—28½ "	23
12.—21½ "	11	28.—36 "	23
13.—19 "	8	29.—50½ "	24
14.—25½ "	17	30.—50 "	23
15.—20½ "	10	31.—41 "	23
16.—31 "	18	32.—39½ "	23

Total, 925½ pts. 510

PASSENGER CARS.			
Amount Oil.	No. months.	Amount Oil.	No. months.
1.—19½ pts.	18	7.—30 pts.	18
2.—25½ "	18	8.—25½ "	18
3.—33½ "	16	9.—29 "	18
4.—19 "	15	10.—46½ "	17
5.—15 "	15	11.—9 "	9
6.—22 "	18	12.—65½ "	17

Total, 340 pts. 197

Averaging 1 4-5 pints of oil for freight, and 1 7-10 for passenger cars per month only!

All orders and enquiries promptly attended to.

BRIDGES & BROTHER,

No. 64 Courtlandt st., New York.

July 25, 1851.

Trautwine on R. R. Curves.

By JOHN C. TRAUTWINE, Civil Engineer,
Philadelphia, Pa.

JUST published, accompanied by a Table of Natural Sines and Tangents to single minutes, by means of which all the necessary calculations may be performed in the field.

This little volume is intended as a field-book for assistants; and will be found extremely useful, as it contains full instructions, (with wood cuts) for laying out, and adjusting curves; with Tables of Angles, Ordinates, etc., for Curves varying from 13 miles, down to 146 feet Radius.

A portable Table of Natural Sines and Tangents to minutes, has for a long time been a desideratum among Engineers, independently of its use in laying out curves.

The volume is neatly got up in duodecimo; and handsomely bound in pocket-book form. Sold by Wm. Hamilton, Actuary of the Franklin Institute, Philadelphia. Price \$1.

Also, "Trautwine's Method of Calculating Excavation and Embankment."

By this method, which is entirely new, (being now made known for the first time) the cubic contents are ascertained with great ease, and rapidly, by means of diagrams, and tables of level cuttings. Thin octavo; neatly half bound, \$1. For sale by Wm. Hamilton.

June 28, 1851.

Railroad Iron.

CONTRACTS made by the subscribers, agents for the manufacturers, for the delivery of Railway Iron, at any port in the United States, at fixed prices and of quality tried and approved for many years, on the oldest railways in this country.

RAYMOND & FULLERTON, 45 Cliff st.

CORROSIVE SUBLIMATE.

THIS article now extensively used for the preservation of timber, is manufactured and for sale by POWERS & WEIGHTMAN, manufacturing Chemists, Philadelphia.

Jan. 20, 1849.

To Chief Engineers, Directors of Railroads, Canals, etc.

A Civil Engineer and Surveyor, who has been professionally engaged under the British Government, East India Company, etc., is desirous of obtaining employment as an Assistant. No objection to the South or West. Address for one month to C. E. & S., American Railroad Journal office.

August 16, 1851.

To Engineers.

A NEW WORK on the Marine Boilers of the United States, prepared from authentic drawings, and illustrated by 70 engravings, among which are those of the fastest and best steamers in the country, has just been published by B. H. Bartol, Engineer, and is for sale at the store of

D. APPLETON & CO.,

Broadway

September 1, 1851.

Pneumatic process for making Foundations for Bridges, Piers, etc.

THE Attention of Engineers, Contractors, and Bridge Builders, etc., is directed to this method of forming secure foundations. Hollow Cylindrical piles from 8 inches to 10 feet in diameter may be sunk through sand, mud, clay, etc., to any required depth, and filled with concrete or masonry.

The efficacy and economy of the process has been demonstrated in the construction of numerous permanent works, at a much less cost than the use of any other method. (See evidence in Parliamentary enquiry, Railroad Journal, April 19, 1851.)

Contracts made, or licenses granted for the use of the invention in any part of the United States, by

CHARLES PONTEZ,

34 Liberty street, N. Y.

LOWMOOR IRON.

THE LOWMOOR IRON COMPANY having appointed Wm. BAILEY LANG their sole agent in America and Canada, he is now prepared to receive and execute all orders for Railway Tire Bars, bent, welded, and blocked Railway Tires, Axles, Piston Rods, and Boiler Plates. Also, plain, angle, rivet and every other description of Lowmoor Iron.

All communications respecting the above are requested to be sent to Wm. Bailey Lang, at his Steel Warehouse, No. 9 Liberty Square, Boston, or to the Lowmoor Iron Works, Bradford, Yorkshire, England.

30th Sept., 1851.

RAILROAD SPRINGS.

Fuller's Patent India-rubber Springs.

PRICE reduced to 50 cents per pound. The owners of this Patent now manufacture the Springs in their own Factory, and guarantee that each spring shall perform its required duty.

Purchasers guaranteed against adverse claims. They may have full confidence in the working qualities of the springs.

The suits brought against Ray & Co., will soon be brought to issue, and we await the result with satisfaction, having full confidence in the pure administration of the Laws.

The long advertisements put forth by Ray & Co. about prior invention of the spring are worthless he has not proved prior invention, and cannot sustain his patent in a Court of Law.

For the owners of Fuller's Patent,

G. M. KNEVITT,

23 Courtlandt st., New York.

October 7, 1851.

Railroad Iron.

THE undersigned, Agents for British Manufacturers, continue to sell Railroad Iron of the best quality, and of any weight or pattern required; deliverable at any part of the United States or Canada.

They have now on hand, ready for delivery at New York:

2,000 tons of an approved pattern, weighing about 60 lbs. to the yard.

WM. F. WELD & CO.,
49 Central Wharf, Boston.

Practical and Scientific Books

PUBLISHED BY
HENRY CAREY BAIRD,

SUCCESSOR TO E. L. CAREY, PHILADELPHIA.
For sale by Dewitt & Davenport, Tribune Buildings, New York, and Booksellers generally throughout the United States and Canada.

Now being published in Twelve Parts, price 25 cents each, the **PRACTICAL MODEL CALCULATOR**, for the Engineer, Machinist, Manufacturer of Engine work, Naval Architect, Miner and Millwright.—By Oliver Byrne, Compiler and Editor of the Dictionary of Machines, Mechanics, Engine Work and Engineering, and Author of various Mathematical and Mechanical works—illustrated by numerous Engravings; forming, when completed, one large volume, octavo, of nearly 600 pages.

It will contain such calculations as are met with and required in the Mechanical Arts, and establish models or standards to guide practical men. The tables that are introduced, many of which are new, will greatly economise labor, and render the everyday calculations of the practical man comprehensive and easy. From every single calculation given in this work other calculations are readily modeled, so that each may be considered the head of a numerous family of practical results.

The examples selected will be found appropriate, and in all cases taken from the actual practice of the present time. Every rule has been tested by the unerring results of mathematical research, and confirmed by experiment, when such was necessary.

The Practical Model Calculator, will be found to fill a vacancy in the library of the practical working man long considered a requirement. It will be found to excel all other works of a similar nature, from the great extent of its range, the exemplary nature of its well selected examples, and from the easy, simple and systematic manner in which the model calculations are established.

Parts 1, 2 and 3 now ready.

American Miller and Millwright's Assistant, By W. C. Hughes. 12mo., illustrated...	\$1 00
Byrne's Practical Model Calculator. In 12 parts, each.....	25
Byrne's Treatise on the American Steam Engine. 8vo [in press].....	
Booth's Encyclopedia of Chemistry. In one vol. royal 8vo, 974 pages, sheep.....	5 00
Builders' Companion. By A. C. Smeaton.—Seventy illustrations, 12mo., cloth.....	1 00
Cotton Spinner and Manufacturers' Companion. By Scott and Byrne. In one vol. 8vo., cloth, with large working drawings.....	3 50
Cabinet Maker and Upholsterer's Companion. 12mo., cloth.....	75
Dyer and Color Maker's Companion. 12mo., cloth.....	75
Elwood's Grain Tables. A new edition, in one vol. 12mo., cloth.....	1 00
Encyclopedia of Useful Knowledge. 8vo., illustrated.....	5 00
Fisher's Photogenic Manipulation. 16mo., cloth.....	62
Gregory's Mathematics for Practical Men. Illustrated, 8vo., cloth.....	1 50
Household Surgery, or Hints on Emergencies. By J. F. South, M.D. 12mo., cloth.....	1 25
Leslie's Complete Cookery. 41st edition, 12mo., sheep.....	1 00
Morfit's Perfumery: its Use and Manufacture. 12mo., cloth.....	1 00
Morfit's Treatise on Tanning, Currying, and Leather Dressing in General. In one vol. 12mo., [in press].....	
Norris' Hand-book for Locomotive Engineers. By Septimus Norris. 12mo., cloth.....	1 50
Neill's Fruit, Flower and Kitchen Garden. Illustrated by numerous plates, 12mo. cloth.	1 25
Overman on the Manufacture of Iron and Steel. Illustrated, 8vo., cloth, new edition.	5 00
Practical Metal Workers' Assistant. By C. Holtzappel, with numerous illustrations, 8vo., cloth.....	4 00
Painter, Gilder, and Varnishers' Companion. New edition, 12mo., cloth.....	75
Randall's Sheep Husbandry in the South. Illustrated, 8vo., cloth.....	1 25
Steam for the Million. 8vo., paper.....	37

THE Fourth Annual Exhibition of AMERICAN MANUFACTURES, by the MARYLAND INSTITUTE for the Promotion of the Mechanic Arts, will be opened in Baltimore on the 20th October, 1851.

The Exhibition will be held in the SPLENDID NEW HALL of the Institute, (fronting on Baltimore street) now being rapidly completed. Their edifice is centrally situated, chaste in its architecture, solid in its construction, and is by far the largest and most complete building in the United States, devoted to the Mechanic Arts. It may be added that this building is 355 feet long by 60 in breadth, with an average height of 68 feet, containing some twelve apartments, the largest of which is 255 feet by 60, and that the cost will be over \$70,000.

To this Exhibition, the Managers ask the attention of all engaged in industrial pursuits throughout the country, and cordially invite them to contribute specimens of their best productions for public inspection, and to compete for the prizes offered by the Institute. These prizes consist of GOLD and SILVER MEDALS, DIPLOMAS, etc., which were last year distributed as follows:—Gold Medals, 16; Silver ditto, 90; Diplomas, 60; besides 85 articles of Jewelry, etc., to ladies. Fair play will be scrupulously observed towards all, and every facility of Steam power, shafting, fixture, labor, &c., &c., will be amply provided free of expense. The machinery will be under a special superintendent, and a fine display of it is looked for. The last exhibition of the Institute was visited by more than 40,000 persons, and with their vastly improved accommodations and alterations, this number will be doubled at the coming display, embracing many Virginians, Pennsylvanians, and other strangers from the South and West.

Joshua Vansant, President.
Ed. Needles, } Vice Presidents.
F. A. Fisher, }
Samuel Sands, Rec. Sec'y.
Wm. Prescott Smith, Cor. Sec.
F. J. Clare, Treasurer.

BOARD OF MANAGERS.

Ross Winans,	Simeon Alden,
P. S. Benson,	J. T. Watson,
Josiah Reynolds,	W. Robinson,
Thomas Stowe,	Wm. A. Boyd,
Thos. J. Lovegrove,	Adam Denmead,
A. Flannigan,	C. W. Bentley,
E. Larrabee,	Geo. R. Dodge,
John F. Davis,	Saml. E. Rice,
Wm. H. Keighler,	John F. Meredith,
Richard Edwards, Jr.,	W. Abrahams,
Wm. Bayley,	Thos. Trimble,
R. Eareskson,	Chas. Suter.

(The last nine in *Italics* are the Committee on Exhibition.)

The Hall will be opened for the reception of goods on MONDAY, 13th October; on the next Monday, 20th, at 7 P. M., the Exhibition will be formally opened to the public, and will positively close on Wednesday, 19th November. Articles for competition must be in the Hall by Thursday night, Oct. 16, unless delayed in shipment after starting in ample time.

Those who intend depositing, will give the Committee or the Agent, notice as early as possible, stating the nature of the goods, and probable amount of room required, to exhibit them to advantage.

Circulars, containing a view of the new Hall and the full regulations of the Committee, with special information, if required, may be had promptly, by addressing the undersigned, or the Institute's Agent, J. S. Selby, Baltimore, post-paid.

ADAM DENMEAD,

Chairman Com. on Exhibition for 1851.

SUPERIOR BLACK WRITING & COPYING INK.

Jones' Empire Ink.

87 Nassau st., Sun Building, New York city.
Net prices to the trade—
Quarts, per dozen, \$1 50 | 6 oz. per dozen, \$0 50
Pints, " 1 00 | 4 " " 0 37
3 ounces, " 0 62 | 2 " " 0 25
On draught per Gallon, 20 cents.

This is the best Ink manufactured. It flows freely, is a good copying ink, and will not mould, corrode, precipitate or decay. Orders for export, or home consumption, carefully and promptly attended to by
21st THEODORE LENT.

To Railroad Companies, etc.



The undersigned has at last succeeded in constructing and securing by letters patent, a Spring Pad-lock which is secure, and cannot be knocked open with a stick, like other spring locks, and therefore particularly useful for locking Cars, and Switches, etc.

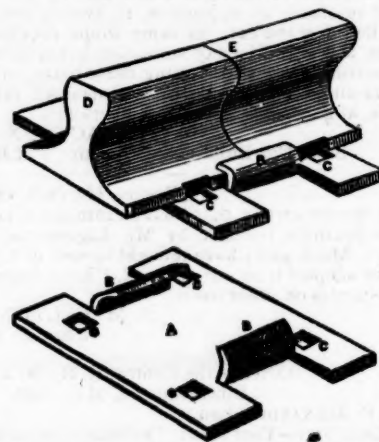
I also invite attention to an improved PATENT SPRING LOCK, for SLIDING Doors to Freight and Baggage Cars, now in use upon the Pennsylvania Central, Greenville and Columbia, S. C., Reading, Pa., and other Railroads.

Companies that are in want of a good Pad-lock, can have open samples sent them that they may examine and judge for themselves, by sending their address to

C. LIEBRICH,
46 South 8th St. Philadelphia.

May 9, 1851.

The American Railroad Chair Manufacturing Co.



ARE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

DESCRIPTION OF THE ABOVE CUTS.

Figure 1 is a perspective view of the rail secured in the chair, and fig. 2 is a perspective view of the chair itself. D, E, are sections of two rails placed together, and secured at the joint on the chair by the jaws B, E. The chair is bolted down by spikes C, C. In fig. 2, the chair is represented as made of a single block or plate A of wrought iron.

The chair is set in its proper place on the track, spiked down, and the ends of the two rails brought together within the jaws as represented in fig. 1.

For further information address,

N. C. TROWBRIDGE, Secretary,
Poughkeepsie, N. Y.

June 1, 1851.

Railroad Commission Agency.

THE Subscriber offers his services to Railroad Co's and Car Makers for the purchase of equipment and furniture of roads and depots and all articles and materials required in the construction of cars, with cash or approved credit. No effort will be spared to select the best articles at the lowest market price.

He is sole Agent for the manufacture of the ENAMELED CAR LININGS, now in universal use. The best Artists are employed in designing new styles, and he will make to order pieces with appropriate designs for every part of the car, in all colors, or with silver grounds and bronzed or velvet figures.

He is also Agent for Page's Car Window Sash Fasteners, which is preferred by all who have used it to any other.

CHARLES STODDER,
75 Kilby st., Boston.

June 20, 1851.

3m.